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AGRICULTURAL DEPRESSION;

CAUSES AND REMEDIES.

REPORT

BY

MR. PEFFER,

SUBMITTED TO

THE SENATE COMMITTEE ON AGRICULTURE AND FORESTRY

FEBRUARY 15, 1894.

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Mr. **Peffer**, chairman of subcommittee, submitted the following report:

Hon. **James Z. George**,
Chairman Committee on Agriculture and Forestry:

Sir: On the 19th day of April, 1892, the Senate adopted the following resolution:

> *Resolved,* That the Committee on Agriculture and Forestry be, and they are hereby, authorized and directed to ascertain in every practical way, and report from time to time to the Senate, the present condition of agriculture in the United States and the present prices of agricultural products, and if there be any of which the prices are depressed, then the causes of such depression and the remedies therefor, and particularly whether the reports of the Department of Agriculture on the distribution and consumption of farm products, published from time to time by authority of the Secretary of Agriculture, contribute in any way to such depression of the market prices of such products, and whether any proper governmental purpose is subserved by such publication, and whether such publication should be continued. And for this purpose that they be authorized, by subcommittee or otherwise, to sit during the recess and sessions of the Senate, at such times and places as they may deem advisable, to employ a stenographer and such clerical assistance and such experts as they may deem necessary, and that they be authorized to send for persons and papers, the expense of such investigation to be paid from the contingent fund of the Senate.

And on the 21st day of February, 1893, the following resolution was adopted by the Senate, continuing the authority granted in the first-named resolution:

> *Resolved,* That the powers conferred and duties imposed on the Committee on Agriculture and Forestry by, and all of the provisions of, the resolution of the Senate April 19, 1892, be continued during the recess, after the expiration of this Congress.

On the 24th day of March, 1893, at a full meeting of your committee, the following resolution was adopted:

> *Resolved,* That two subcommittees, consisting of three members each, be appointed by the chairman of this committee, one of which committees shall be charged especially with the duty of investigating the condition of the agricultural industry of the country as it concerns cotton and other vegetable fibers, the other to investigate the grain and other farm interests not confided to the other subcommittee, all for the purpose of aiding the full committee in executing the order of the Senate as contained in the resolution of the Senate adopted April 19, 1892, and continued by resolution adopted March 3, 1893.
>
> *Resolved further,* That one member of each of said subcommittees shall be authorized to perform the duties of said subcommittee when it is impracticable for all the other members to be present under the summons of the chairman of the subcommittee.

Your subcommittee, appointed in pursuance of the two resolutions last above noted to investigate the condition of the agricultural industry as it relates to grain and farm interests not including cotton and other vegetable fibers, having made such investigation, and having heretofore reported the matter collected, do now submit the following report thereon:

The committee is charged to ascertain and report four specific facts: (1) What is the present condition of agriculture in the United States? (2) What are the present prices of agricultural products? (3) If any of such prices are depressed, what are the causes thereof, and, (4) Whether the reports of the Department of Agriculture on the distribution and consumption of farm products, published from time to time by authority of the Secretary of Agriculture, contribute in any way to such depression of the market prices of such products, and whether any proper governmental purpose is subserved by such publication, and whether such publication should be continued.

In addition to these duties, the committee is charged with the responsibility of suggesting remedies for any depressions in prices which shall have been found to exist.

If the wording of the resolution in respect to time were to be literally construed, it is doubtful whether any good would come from the work of the committee, because, in that case it would be only the present condition—the condition of agriculture *at this time*—that could be examined and reported, present condition and present prices. This, obviously, is too narrow a construction.

The committee have taken a wider view of the subject and have examined the condition of agriculture during many years past in order that by comparing the present condition and present prices with conditions and prices heretofore existing, we might the more readily determine whether there is depression now and what has caused it.

And in using the word "present" it would be manifestly not satisfactory to limit it to this year, or last or next year, or to any one year

If we compare the condition of agriculture in the year 1893 with its condition in the year 1892 we may find a change for the better; if we make the comparison with the year 1890 we may find little difference. The fact that farming is not profitable this year is not evidence that it was not profitable last year nor that it will be either better or worse next year. Poor returns for a single year argue nothing except as to that particular year.

Comparisons of any one year with any other year do not show reliable data for periods of time longer than one year, or two years, at most. If we compare the condition of agriculture in the years 1893, 1892, and 1891 with the conditions existing during the three years immediately preceding, we may discover favorable changes, while if we set general conditions of the farming industry during the last ten years against conditions during the next preceding ten years the contrast may be marked against the later period. So, in contrasting long periods we may find a general level about the same, and again differences worthy of note may be plainly apparent.

CONDITION OF AGRICULTURE.

Farmers as a class are much better informed than they were forty years ago concerning not only their particular vocation but those of the classes that purchase, carry, and exchange farm products. There are many local and several national organizations of men and women devoted exclusively to the interests of agriculture. The Patrons of Husbandry—commonly known as the Grange—began their work in 1867; the Farmers' Alliance was organized about the year 1875; the Farmers' Mutual Benefit Association has been in existence about nine years. These and other bodies of men who till the soil have done a great work among themselves in the way of necessary education concerning details of business methods in the disposition of their surplus products. Agricultural colleges and experiment stations have been serviceable in teaching the art of farming from a scientific standpoint. It is common in some parts of the country to find graduates of these colleges busily engaged in the practical work of agriculture.

The educational influences of the county fair have been greatly lessened by the modern tendency to horse racing and other species of gambling. But the fair has been superseded by farmers' institutes and other forms of meeting, where men of learning mingle with plain farmers, and together they discuss practical matters pertaining to the daily work of the farm. In Wisconsin a State officer has charge of institute work. In Kansas and some other States teachers in the agricultural colleges fix dates for holding institutes in different portions of their respective States as often as they can do so without neglecting their duties at the college, and the places for meeting are so arranged as to reach all parts of the State in the course of a few years. In some States State agricultural societies manage the institute work.

In some of the States departments of agriculture have been created as State offices, and this has been found to be an efficient means of collecting and disseminating information of special benefit to all persons interested in the business of farming.

Through the operation of these and other instrumentalities before mentioned, the intellectual horizon of our farmers has been greatly widened within the last twenty-five years.

There is an evident tendency in many places to possess and to cultivate large tracts of land under one ownership. In such cases, machinery can be used within the closest limits of economy and labor can be applied to the best advantage. The production of large quantities of wheat or corn by one management and the raising of a great many animals by one person or firm for sale serve to secure for their owners many advantages among dealers and carriers.

This "bonanza farming" is seen highly developed in the Dakotas, the new mountain States, and in California, where farms range from 5,000 acres to 200,000 acres. On these immense plantations farming is conducted with as much business tact and attention as a great manufacturing establishment or railway corporation. Everything is utilized to the best advantage and everything is accounted for. Farmers of this class are men of large means; they have all needed conveniences for the successful carrying on of their business at the least expense. Their business connections are not limited to the boundaries of their landed possessions, but they extend to elevators, railways, and steamship lines. Some of the large farmers of California own freight houses along the railroads and warehouses and wharves at tide water.

In the older States many men who spent their earlier years on farms and accumulated a competency have turned their lands over to renters for tillage, and in the newer States some of the more prosperous farmers are enlarging their boundaries by purchasing the lands of their less fortunate neighbors.

The farming area has been greatly enlarged since the war. The following table shows the acreage devoted to particular crops in certain years:

Years.	Wheat.	Corn.	Oats.
	Acres.	*Acres.*	*Acres.*
1870	18,992,591	38,646,977	8,792,395
1880	37,986,717	62,317,842	16,187,917
1892	38,554,430	70,626,658	27,062,825

It will be observed that much the largest increase of acreage took place during the first ten years of the period covered by the table. The wheat area was doubled between the years 1870 and 1880, while the increase from 1880 to 1892 was only 567,713 acres. Corn area was enlarged 60 per cent during the years between 1870 and 1880, while since that time the enlargement has been but 13 per cent. The oats acreage was increased twice as much from 1870 to 1880 as it was between that time and 1892.

With the stimulus to grain-growing came corresponding development of the milling industry. Men of great resources—and the same men—are frequently found engaged in buying and selling grain, and in manufacturing and exporting flour. They have facilities for collecting and storing grain scattered along all the railway lines in the grain States, and at the milling and trading centers. They are in constant touch with the speculative markets at one end of the line and with their agents out among the farmers at the other end. The local buyer does not purchase on his own account; he is the agent of men or companies at headquarters. There is an enormous concentration of wealth and business talent at the grain marts dealing with products of the farm. Minneapolis dealers bought 70,000,000 bushels of wheat in the year 1892, and the 21 flouring mills there turned out 9,750,000 barrels of flour in the same time.

The market for wheat in the United States is fixed by dealers on the Board of Trade in Chicago, and for all the surplus wheat and corn exported the price is fixed in Liverpool, England.

Merchant milling has become so common that farmers now quite generally sell their wheat and buy their flour as they need it. In the Eastern States the old grist mills still do some custom work, but the "grist" business has almost passed away.

Vast areas of nutritious native grasses in the Territories tempted stockmen into raising cattle on the public lands. The range and ranch cattle business began about the year 1868, and in seventeen years it had grown to fabulous proportions. With the building of railways in Texas, Kansas, and the far West and Northwest began a movement of cattle from Texas northward and eastward. Young cattle were driven and afterwards carried on railroads to the grazing lands of Wyoming and Montana, and fatted animals were carried to St. Louis and Chicago. Improved breeding animals were taken from the Eastern herds to cross on the natives from Texas and the Indian Territory. By the year 1884, it was estimated that about 7,500,000 head of cattle were on the ranges east of the Rocky Mountains, and north of New Mexico and Texas, and their value was put at $187,500,000.

The influence of this abnormal development of the cattle industry was felt on every farm in the country where cattle were raised and fed for slaughter. With the use of land without taxes, the use of grass without cost, young cattle at low figures, and transportation at favorable rates, ranchmen were able to flood the markets and defy competition.

While the cattle business was growing on the ranges facilities for handling the animals marketed developed in equal proportions. Packing houses are among the great institutions of the country. They draw their supplies from all the States west of the Ohio and Mississippi rivers. Local butchers at all the large towns have gradually come to purchase their meats dressed and forwarded to them by the packers. This logically relieves the local buyer. The live animals are loaded at the nearest railway station and hauled to the stock yards, where packers are the only bidders. One great packing establishment in Chicago killed 1,750,000 hogs, 850,000 cattle, and 600,000 sheep during the year 1892. The packing business has become so widely extended and reaches so many towns that farmers are fast coming into a habit of selling their animals on foot and purchasing their meats from the butchers or merchants at the nearest town.

The extension of the agricultural area took place chiefly in the new States of the West; it produced a marked effect on farming operations in all parts of the country, and it had a corresponding influence on the general conditions of agriculture. In the prairie regions, where timber is scarce, lumber dear, and weather uncertain, it is necessary to sell surplus crops as soon as harvested; railways have been constructed through every State, and elevators and warehouses are erected at convenient distances for collecting grain. Grain dealers with headquarters at the centers of trade have unequaled facilities for procuring information and forwarding instructions to their agents and buyers out on every line of road, with ready facilities for receiving and transmitting intelligence concerning condition and quantity of grain in any given locality. The agents receive their instructions daily—hourly in panicky times—as to what prices shall be offered or paid for grain.

It may be said that as to much of the grain-growing lands of the country, they have been improved in late years. This is true particularly as to New England and the old Middle States. Well-managed farms there do now yield more wheat by the acre than they did fifty years ago.

Though cereals are not grown as extensively in the far East as they were before the era of manufacturing there, the fertility of lands which are still used for that purpose indicate that the soil has not been permitted to "wear out." Many of the old farms in New York, Pennsylvania, the Virginias, Maryland, Delaware, and New Jersey, that have been continuously cropped a hundred years or more, yield 20 to 40 bushels of wheat per acre in favorable seasons. They have been carefully tilled by prudent men, their fertility has been retained by wise rotation of crops, by copious applications of barnyard manure and composts, and a judicious use of commercial fertilizers. Ohio farmers produced more wheat per acre during the last fifteen years than they did during the like period immediately preceding and on the same lands. Good soil conditions have been well maintained throughout the Northern and Western grain States, except on thin lands and where farmers have not yet learned the need of feeding the earth they work.

Speaking generally, farm lands in all the grain-growing and stock-raising States are in as good condition for tillage now as they ever were, and they are yielding as large returns, as the following tables show:

Showing the aggregate production and the area of all the cereals—wheat, corn, oats, rye, barley, and buckwheat—grown in the United States for each of the years from 1867 to 1888, inclusive.

Calender year.	Total production.	Total area of crops.	Calender year.	Total production.	Total area of crops.
	Bushels.	*Acres.*		*Bushels.*	*Acres.*
1867*	1,329,729,400	65,636,444	1878	2,302,254,950	100,956,260
1868*	1,450,789,000	66,715,926	1879	2,437,482,300	102,260,950
1869	1,491,612,100	69,457,762	1880	2,718,193,501	120,926,286
1870	1,629,027,600	69,254,016	1881	2,066,029,570	123,388,070
1871	1,528,776,100	65,061,951	1882	2,699,394,496	126,568,529
1872	1,664,331,600	68,280,197	1883	2,629,319,088	130,683,556
1873	1,538,892,891	74,112,137	1884	2,992,880,000	136,292,766
1874	1,454,180,200	80,051,289	1885	3,015,439,000	135,876,080
1875	2,032,235,300	86,863,178	1886	2,842,579,000	141,859,656
1876	1,963,422,100	93,920,619	1887	2,660,457,000	141,821,315
1877	2,178,934,646	93,150,286	1888	3,209,742,000	146,281,000

*Oregon not included.

The following statement shows the production and area of corn, wheat, and oats for the years 1889 to 1892, inclusive:

Year.	Production.	Area.
	Bushels.	*Acres.*
1889	3,354,967,000	143,912,231
1890	2,412,853,000	134,489,286
1891	3,410,328,000	141,703,273
1892	2,805,448,000	136,243,913

As to the different grains separately stated the following table shows how well the general average of production has been maintained since the year 1867:

Table showing the estimated production and area of grains grown in the United States each year from 1867 to 1892, separately stated.

[From the Annual Reports of the Department of Agriculture.]

Calendar year.	Corn.			Wheat.		
	Total production.	Total area of crop.	Average yield per acre.	Total production.	Total area of crop.	Average yield per acre.
	Bushels.	*Acres.*	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*
1869	874,520,000	37,103,245	23.6	260,146,900	19,181,004	13.5
1870	1,094,255,000	38,646,977	28.3	235,884,700	18,992,591	12.4
1871	991,898,000	34,091,137	29.1	230,722,400	19,943,893	11.5
1872	1,092,719,000	35,526,836	30.7	249,997,100	20,858,359	11.9
1873	932,274,000	39,197,148	23.8	281,254,700	22,171,676	12.7
1874	850,148,500	41,036,918	20.7	308,102,700	24,967,027	12.3
1875	1,321,069,000	44,841,371	29.4	292,136,000	26,381,512	11.0
1876	1,283,827,500	49,033,364	26.1	289,956,500	27,627,021	10.5
1877	1,342,558,000	50,369,113	26.6	364,194,146	26,277,546	13.9
1878	1,388,218,750	51,585,000	26.9	420,122,400	32,108,560	13.1
1879	1,547,901,790	53,085,450	29.2	448,756,630	32,545,950	13.8
1880	1,717,434,543	62,317,842	27.6	498,549,868	37,986,717	13.1
1881	1,194,916,000	64,262,025	18.6	383,280,090	37,709,020	10.1
1882	1,617,025,100	65,659,545	24.6	504,185,470	37,067,194	13.6
1883	1,551,066,895	68,301,889	22.7	421,086,160	36,455,595	11.6
1884	1,795,528,000	69,683,780	25.8	512,765,000	39,475,885	13.0
1885	1,936,176,000	73,130,150	26.5	357,112,000	34,189,246	10.4
1886	1,665,441,000	75,694,208	22.0	457,218,000	36,806,184	12.4
1887	1,456,161,000	72,392,720	20.1	456,329,000	37,641,783	12.1
1888	1,987,790,000	75,672,763	26.2	415,868,000	37,336,138	11.1
1889	2,112,892,000	78,326,056	27.0	490,560,000	38,123,859	12.9
1890	1,489,970,000	71,970,763	20.7	399,262,000	36,087,154	11.1
1891	2,060,154,000	76,204,515	27.0	611,780,000	39,916,897	15.3
1892	1,628,464,000	70,626,658	23.1	515,949,000	38,554,430	13.4

***Table showing the estimated production and area of grains grown in the United States each year from 1867 to 1892, separately stated*—Continued.**

Calendar year.	Rye.			Oats.		
	Total production.	Total area of crop.	Average yield per acre.	Total production.	Total area of crop.	Average yield per acre.
	Bushels.	*Acres.*	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*
1867 *	23,184,000	1,689,175	13.7	278,698,000	10,746,416	25.9
1868 *	22,504,800	1,651,321	13.6	254,060,800	9,668,736	26.3
1869	22,527,900	1,657,584	13.5	288,334,000	9,461,441	30.4
1870	15,473,600	1,176,137	13.1	247,277,400	8,792,395	28.1
1871	15,365,500	1,069,531	14.3	255,743,000	8,365,809	30.5
1872	14,888,600	1,048,654	14.1	271,747,000	9,000,769	30.1
1873	15,142,000	1,150,355	13.1	270,340,000	9,751,700	27.7
1874	14,990,900	1,116,716	13.4	240,369,000	10,897,412	22.0
1875	17,722,100	1,359,788	13.0	354,317,500	11,915,075	29.7
1876	20,374,800	1,468,374	13.8	320,884,000	13,358,908	24.0
1877	21,170,100	1,412.902	14.9	406,394,000	12,826,148	31.6
1878	25,842,790	1,622,700	15.9	413,578,560	13,176,500	31.4
1879	23,639,460	1,625,450	14.5	363,761,320	12,683,500	38.7
1880	24,540,829	1,767,619	13.9	417,885,380	16,187,977	25.8
1881	20,704,950	1,789.100	11.6	416,481,000	16,831,600	24.7
1882	29,960,037	2,227,884	13.4	488.250,610	18,494,691	26.4
1883	28,058,582	2,314,754	12.1	571,302,400	20,324,962	28.1
1884	28,640.000	2,343,963	12.2	583,628,000	21,300,917	27.4
1885	21,756,000	2,129,301	10.2	629,409,000	22,783,630	27.6
1886	24,489,000	2,129,918	11.5	624,134,000	23,658,474	26.4
1887	20,693,000	2,053,447	10.1	659,618,000	25,920,906	25.4
1888	28,415,000	2,364,805	12.0	701,735,000	26,998,282	25.9
1889				751,515,000	27,462,316	27.4
1890				523,621,000	26,431,369	19.8
1891				738,394,000	25,581,861	28.9
1892				661,035,000	27,062,825	24.4

Calendar year.	Barley.			Buckwheat.		
	Total production.	Total area of crop.	Average yield per acre.	Total production.	Total area of crop.	Average yield per acre.
	Bushels.	*Acres.*	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*
1867*	25,727.000	1,131,217	22.7	21,359,000	1,227,826	17.4
1868*	22,896,100	937,498	24.4	19,863,700	1,113,993	17.8
1869	28,652,200	1,025,795	27.9	17,431,100	1,028,693	16.9
1870	26,295,400	1,108,924	23.7	9,841,500	536,992	18.3
1871	26,718,500	1,177,666	22.6	8,328,700	413,915	20.1
1872	26,846,400	1,397,082	19.2	8,133,500	448,497	18.1
1873	32,044,491	1,387,106	23.1	7,837,700	454,152	18.2
1874	32,552,500	1,580,626	20.6	8,016,600	452,590	17.7
1875	36,908,600	1,789,902	20.6	10,082,100	575,530	17.5
1876	38,710,500	1,766,511	21.9	9,668,800	666,441	14.5
1877	34,441.400	1,014,654	21.3	10,177,000	649,923	15.6
1878	42,245,630	1,790,400	23.6	12,246,820	673,100	18.2
1879	40,283,100	1,680,700	24.0	13,140,000	639,900	20.5
1880	45,165,346	1,843,329	24.5	14,617,535	822,802	17.7
1881	41,161,330	1,967.510	20.9	9,486,200	828,815	11.4
1882	48.952,926	2,272,103	21.5	11,019,353	847,112	13.0
1883	50,136.097	2,379,009	21.1	7,668,954	857,349	8.9
1884	61,203,000	2,608,818	23.5	11,116,000	879,403	12.6
1885	58,360,000	2,729,359	21.4	12,626,000	914,394	13.8
1886	59.428,000	2,652,957	22.4	11,869,000	917,915	12.9
1887	56,812.000	2,901,953	19.6	10,844,000	910,506	11.9
1888	63,884,000	2,996,382	21.3	12,050,000	912,630	13.2

* Oregon not included.

It will be seen that buckwheat is the only crop that has not been largely increased since 1869. Wheat and corn have been about doubled, and oats increased about 125 per cent. Rye has not gone beyond 25 per cent. Taking all the cereals as one, the increase of production has been about 120 per cent since 1867, while the enlargement of the area on which the grain was grown was somewhat less.

In the same time the production of potatoes increased nearly 100 per cent, and the increase of live stock greatly exceeds that figure. From

1868 to 1892 the number of horses increased from 5,756,940 to 16,206,802; mules from 855,685 to 2,331,128; milch cows from 8,691,568 to 16,424,087; oxen and other cattle from 11,942,484 to 35,954,196; sheep from 38,991,912 to 47,273,553; swine from 24,317,258 to 46,094,807.

It is clear that the area of farming lands has been greatly extended, that their fertility has been well maintained, and that their returns have been increased, in the aggregate, more than 100 per cent within twenty-five years. If this were all that is to be taken into the account the verdict must be that the condition of agriculture is good, for the farmers have been industrious and the earth has responded bounteously to their toil. But it is not all, and now we proceed to consider what remains.

PRICES AND DEPRESSION.

The second and third facts which the committee are charged to ascertain and report are so intimately connected that it will save time by considering together the evidence on which both facts rest. Whether there has been any depression in prices can be ascertained only by comparing present prices with those of preceding years.

We will first refer to the prices of such things as could be gathered from assessors' returns in a few of the States, and for convenience we will reproduce here some of the figures found among "State statistics," beginning on page 16.

MISSOURI.

Land.—Average value per acre—assessed valuation in 1884, $6.25; in 1892, $6.76; increase, 51 cents.

Live stock.	1885.	1892.
Horses	$38.76	$34.73
Mules	46.89	38.30
Asses and jennets	53.60	78.05
Neat cattle	13.50	9.54
Sheep	1.12	1.31
Hogs	1.93	1.59

Grains not assessed separately—they are included in "other personal property."

ILLINOIS.

Quantity and value of real estate assessed for taxation each year from 1873 to 1892.

Year.	Average value per acre.			Year.	Average value per acre.		
	Improved lands.	Unimproved lands.	Total lands.		Improved lands.	Unimproved lands.	Total lands.
1873				1883	$13.20	$4.26	$11.45
1874	$20.81	$7.66	$17.16	1884	13.37	4.46	11.26
1875	19.44	6.85	16.15	1885	12.91	4.12	1.02
1876	18.42	6.21	15.23	1886	12.59	3.97	10.76
1877	17.28	5.64	14.35	1887	12.34	3.85	10.57
1878	15.58	5.29	13.02	1888	11.97	3.66	0.24
1879	14.38	4.65	11.99	1889	11.71	3.66	10.08
1880	13.81	4.48	11.59	1890	11.46	4.02	9.98
1881	13.80	4.47	11.61	1891	11.35	4.12	9.95
1882	13.60	4.37	11.55	1892	11.18	4.03	9.82

Yield and average value of grains per bushel for each year from 1873 to 1892.

Year.	Wheat.		Corn.		Oats.	
	Average yield per acre.	Price per bushel at farm Aug. 1.	Average yield per acre.	Price per bushel at farm.	Average yield per acre.	Price per bushel at farm Aug. 1.
	Bushels.		*Bushels.*		*Bushels.*	
1873	13+	$1.10	21	$0.32	30	$0.28
1874	11+	.86	18	.56	17	.45
1875	10+	.91	34	.34	33	.28
1876	9+	.93	25	.31	20	.26
1877	16+	1.15	30	.28	39	.26
1878	14+	.80	29	.22	30	.20
1879	18+	.87	38	.32	33	.22
1880	17+	.82	33	.33	35.	.24
1881	6+	1.07	24	.53	36	.30
1882	18+	.89	24	.42	40	.41
1883	10—	.95	25	.36	38	.26
1884	12+	.76	33	.29	36	.25
1885	8—	.86	32	.28	36	.24
1886	14	.74	25	.30	34	.26
1887	16	.65	19	.41	30	.23
1888	15	.70	39	.28	40	.24
1889	18	.70	35	.23	39	.20
1890	12+	.82	27	.45	24	.29
1891	18	.79	38	.38	38	.28
1892	18	.69	26	.35	33	.27

Average value of different classes of live stock for each year from 1874 to 1892.

Year.	Horses.	Cattle.	Mules and asses.	Sheep.	Hogs.
1874	$45.92	$15.63	$50.39	$1.62	$2.60
1875	40.95	14.27	45.75	1.51	2.90
1876	36.92	13.37	40.70	1.44	3.35
1877	33.90	12.38	36.92	1.30	2.56
1878	29.63	11.19	32.39	1.15	1.50
1879	26.63	10.15	28.82	1.10	1.33
1880	26.56	9.95	29.77	1.29	1.56
1881	27.66	10.04	31.50	1.29	1.83
1882	28.22	10.18	31.17	1.28	2.03
1883	28.89	10.45	32.21	1.25	2.25
1884	28.41	10.13	31.20	1.16	1.85
1885	27.16	9.61	29.26	.99	1.52
1886	26.13	8.84	27.39	.95	1.38
1887	25.80	8.31	26.79	.96	1.42
1888	24.88	7.11	25.03	.96	1.42
1889	24.21	6.59	24.46	.98	1.59
1890	22.96	6.43	23.44	1.02	1.35
1891	21.96	6.30	22.94	1.07	1.26
1892	20.74	6.07	21.64	1.06	1.2

WISCONSIN.

Value of land and of live stock assessed for taxation in the years 1886 and 1892.

LAND.

Year.	Average value per acre.
1886	$8.43
1892	10.60

Value of land and of live stock assessed for taxation in the years 1886 and 1892—**Cont'd.**

LIVE STOCK.

	Average value.	
	1886.	1892.
Horses	$43.93	$39.55
Neat cattle	11.66	8.70
Mules and asses	42.13	33.68
Sheep and lambs	1.31	1.40
Swine	2.17	2.21

MINNESOTA.

Average value of land for the years 1878 to 1892, inclusive.

Year.	Average value per acre.	Year.	Average value per acre.	Year.	Average value per acre.
1878	$8.08	1883	$7.50	1888	$7.22
1879	7.83	1884	7.40	1889	7.05
1880	7.80	1885	7.19	1890	7.36
1881	7.68	1886	7.50	1891	7.46
1882	7.89	1887	7.02	1892	7.88

Average value of live stock for the years 1883 and 1892 as assessed for taxation.

	Average value.	
	1883.	1892.
Horses 3 years and over	$65.80	$54.21
Cattle 2 years old	11.11	7.25
Mules and asses	68.70	....
Sheep	2.03	1.40
Hogs	3.41	2.20

IOWA.

Average value of live stock for the years 1870 to 1892.

Year.	Cattle.	Horses.	Mules.	Sheep.	Swine.	Year.	Cattle.	Horses.	Mules.	Sheep.	Swine.
1870	$12.87	$42.67	$38.53	$0.63	$3.09	1882	$10.44	$30.52	$37.47	$1.28	$2.08
1871	13.37	39.97	50.18	.68	2.56	1883	10.60	30.06	37.14	1.19	2.15
1872	11.10	35.04	45.01	1.00	2.03	1884	10.41	31.00	37.25	1.17	1.97
1873	10.98	34.33	42.41	1.09	1.86	1885	10.97	31.56	36.07	1.08	1.71
1874	11.04	35.35	41.80	1.08	2.00	1886	10.16	30.18	34.54	.99	1.58
1875	11.04	33.35	40.77	1.22	2.37	1887	9.03	29.04	33.32	1.02	1.56
1876	10.90	32.42	40.54	1.11	2.63	1888	8.05	28.33	32.24	.99	1.84
1877	10.26	30.48	38.94	1.09	2.36	1889	7.70	27.81	30.98	1.06	2.06
1878	10.90	29.95	36.75	1.01	1.91	1890	7.11	26.46	28.80	1.18	1.64
1879	10.20	29.23	37.11	1.10	1.50	1891	6.74	25.64	27.46	1.33	1.39
1880	10.48	29.33	36.62	1.30	1.92	1892	6.70	24.10	25.67	1.35	1.55
1881	10.52	29.80	36.59	1.25	2.02						

NEBRASKA.

Average value of land assessed for taxation for the years 1885 and 1892.

Year.	Real estate—lands.	
	Improved.	Unimproved.
1885	$4.60	$2.76
1892	3.72	2.27

Average value of live stock assessed for taxation for the years 1882, 1885, and 1892.

Live stock.	Average value.		
	1882.	1885.	1892.
Horses	$24.51	$23.51	$13.24
Cattle	8.65	8.81	3.92
Mules and asses	22.74	28.33	15.22
Sheep	.94	.58	.77
Hogs	1.25	1.18	1.02

KANSAS.

Average value of lands per acre as assessed for taxation, 1872 to 1892.

Year.	Average value per acre.	Year.	Average value per acre.	Year.	Average value per acre.
1872		1879	$3.97	1886	$4.24
1873		1880	3.90	1887	4.12
1874	$4.26	1881	3.83	1888	4.15
1875	4.07	1882	3.88	1889	4.03
1876	4.16	1883	3.85	1890	3.82
1877	4.11	1884	4.23	1891	3.80
1878	3.98	1885	4.13	1892	3.68

It appears that—

In Missouri land increased in value 51 cents an acre since 1884; that horses, mules, neat cattle, and hogs decreased in value, and that asses and jennets and sheep increased in value since 1885.

In Illinois improved lands fell from $20.81 in 1873 to $11.18 in 1892; wheat fell in the same time from $1.10 to 69 cents a bushel; that corn fluctuated, but about maintained its normal price; that oats was 3 cents higher in 1892 than it was in 1873; that cattle dropped nearly 60 per cent; horses and mules went below that, hogs fell 50 per cent, and sheep 33 per cent.

In Wisconsin land increased in value from $8.43 in 1886 to $10.60 in 1892; horses, mules, and cattle fell, while sheep and swine rose.

In Minnesota land values remained at about the same level from 1879 to 1892, and live-stock prices went down during the same time.

In Iowa all classes, except sheep, declined from 1870 to 1892.

In Nebraska improved lands fell from $4.60 to $3.72, more than 20 per cent since 1885, and live stock dropped, on an average, about 40 per cent.

In Kansas land was about 15 per cent lower in 1892 than it was in 1874 and in 1884. In New York the State authorities do not report assessed lands by the acre, nor are the different classes of live stock separated and their number and value given. Values of land by the acre and of animals by numbers, for purposes of comparison, must be procured from other sources. According to the report of the State comptroller submitted January, 1891, farm lands in that State had depreciated at least 33⅓ per cent within a few years.

In Pennsylvania, while correspondents differ, it may be stated that on the whole farm lands in that State have fallen 25 to 30 per cent in the last twenty years. We have not found any official statement of values of land by the acre, nor of live stock by number, nor of grain by the bushel, except as to sheep, corn, and hay at Pittsburg for eleven years. On these articles prices fluctuated at the stock yards from 1881 to 1891 as follows:

[Sheep, 100 pounds or over.]

Year.	Sheep.	Corn.	Hay, per ton.	Year.	Sheep.	Corn.	Hay, per ton.
1881	$5.80	$0.65	$11.00	1887	$5.20	$0.75	$8.00
1882	6.40	.55	9.00	1888	6.00	.75	10.00
1883	6.00	.45	7.00	1889	5.40	.70	6.50
1884	6.40	.45	6.00	1890	5.80	.55	6.50
1885	4.20	.50	6.50	1891	5.80	.55	15.00
1886	5.80	.80	7.50				

In the New England States lands used for agricultural purposes are not valued as high now as they were in 1875 by 30 per cent.

It will not be practicable to procure satisfactory information concerning land values in all the States before the U. S. Census returns are published.

There are many local influences which affect prices, and it is only by averages that we can approximate the general truth in regard to the matter. When men who own land are out of debt and do not want to sell, they hold their land as high as they ever did; while, on the other hand, when the owner is in debt or wants to sell, he does not strenuously hold up the price. From the best sources of information accessible, the committee are of opinion that the prices at which farm lands in the older States could have been sold during the last five years is at least 25 per cent below the level of fifteen or twenty years ago. And if we are guided by the reports of land sales in foreclosure proceedings, the depreciation has been more than 50 per cent. In 383 cases in six counties of one State the lands sold for but 25 per cent of the debt, and the debt was only one-third the estimated value of the land when the debt was incurred.

Concerning the general range of prices throughout the country for grains and live stock the following tables were prepared for the committee by the statistician of the Department of Agriculture:

Farm prices of cereals, per bushel, in United States for each year from 1868 to 1892.

Year.	Corn.	Wheat.	Rye.	Oats.	Barley.	Year.	Corn.	Wheat.	Rye.	Oats.	Barley.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*		*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1868	63·0	142·9	127·7	56·0	130·3	1881	63·6	119·3	93·3	46·4	82·3
1869	75·3	94·1	97·1	47·6	81·6	1882	48·4	88·2	61·5	37·5	62·8
1870	54·9	104·2	81·5	43·3	84·5	1883	42·0	91·0	58·0	33·0	58·7
1871	48·2	125·8	79·0	40·1	80·6	1884	35·7	64·5	51·9	28·0	48·7
1872	39·8	124·0	76·3	33·6	73·8	1885	32·8	77·1	57·9	28·5	56·3
1873	48·0	115·0	76·2	37·4	91·5	1886	36·6	68·7	53·8	29·8	53·6
1874	64·7	94·1	85·8	52·0	92·1	1887	44·4	68·1	54·5	30·4	51·9
1875	42·0	100·0	76·9	36·5	81·1	1888	34·1	92·6	58·8	27·8	59·0
1876	37·0	103·7	66·9	35·1	66·4	1889	28·3	69·8	45·7	22·9	42·7
1877	35·8	108·2	59·2	29·2	63·9	1890	50·6	83·8	62·9	42·4	64·8
1878	31·8	77·7	52·6	24·6	58·0	1891	40·6	83·9	77·4	31·5	54·0
1879	37·5	110·8	65·6	33·1	58·9	1892	39·4	62·4	54·8	31·7	47·2
1880	39·6	95·1	75·6	36·0	66·6						

By separating the whole time into three four-year periods and finding the average prices for each period, we have the following:

Statement showing the average farm prices of corn, wheat, oats, rye, and barley during each of three four-year periods, beginning with 1868 and ending with 1892.

	1868–'72.	1878–'82.	1888–'92.
	Cents.	*Cents.*	*Cents.*
Corn	56.24	45.18	38.6
Wheat	118.2	98.22	78.4
Rye	92.32	69.72	59.92
Oats	44.12	35.52	31.26
Barley	90.16	65.72	53.54

This shows an average decline during the whole period of wheat, 35 per cent; corn, 32 per cent; rye, 32 per cent; oats, 30 per cent; barley, 40 per cent; a general average of about 35 per cent for all.

Farm value of live stock in United States.

Years.	Horses.	Mules.	Oxen. and other cattle.	Milch cows.	Sheep.	Hogs.
1868	$75.16	$77.61	$20.86	$36.78	$2.53	$4.55
1869	84.16	106.74	25.12	39.11	2.17	6.26
1870	81.38	109.01	22.54	39.12	2.28	6.99
1871	78.52	101.53	22.82	37.33	2.32	6.20
1872	73.37	94.82	19.61	31.97	2.80	4.36
1873	74.21	95.15	20.06	29.72	2.96	4.09
1874	71.45	89.22	19.15	27.99	2.61	4.36
1875	68.01	80.00	18.68	28.52	2.79	5.34
1876	64.96	75.33	19.04	28.89	2.60	6.80
1877	60.08	68.91	17.10	27.32	2.27	6.09
1878	58.16	63.70	17.14	26.41	2.25	4.98
1879	52.41	56.06	15.39	21.73	2.07	3.18
1880	54.75	61.26	16.10	23.27	2.21	4.28
1881	58.44	69.79	17.33	23.95	2.39	4.70
1882	58.52	71.35	19.89	25.89	2.37	5.98
1883	70.59	79.49	21.80	30.21	2.53	6.75
1884	74.64	84.22	23.52	31.37	2.37	5.57
1885	73.70	82.38	23.25	29.70	2.14	5.02
1886	71.27	79.60	21.17	27.40	1.91	4.25
1887	71.82	79.78	17.79	24.65	2.05	4.98
1888	71.89	79.49	17.05	23.94	2.13	5.79
1889	68.84	78.25	15.21	22.14	2.27	4.72
1890	67.00	77.88	14.76	21.62	2.50	4.15
1891	65.01	75.55	15.16	21.40	2.58	4.60
1892	61.22	70.68	15.24	21.75	2.66	6.41

Dividing the whole time into three four-year periods and striking averages we have the following statement showing the average farm values of live stock in the United States for each of three four-year periods beginning with 1868 and ending with 1892.

	1868–'72.	1878–'82.	1888–'92.
Horses	$78.518	$56.456	$66.792
Mules	97.942	64.432	76.37
Oxen and other cattle	22.19	17.17	15.484
Milch cows	36.862	24.25	22.17
Sheep	2.42	2.258	2.428
Hogs	5.672	4.624	5.134

It appears from these figures that horses fell from the first period to the second about 28 per cent; that they rose from the second to the third about 21 per cent, and that the drop for the whole period has been about 16 per cent.

Mules declined over $33 a head from the first to the second period, and gained $12 a head from the second to the third period, losing 22 per cent during the whole time.

Oxen and other cattle dropped nearly 35 per cent during the whole period; milch cows went down 40 per cent; sheep maintained their average, while hogs declined 20 per cent from first to second period and gained it nearly all again during the time between the second and third period.

The average loss on live stock, excepting sheep and swine, has been about 28 per cent.

The following tables show the monthly and yearly range of prices for fat animals at Chicago for fourteen years, from 1878 to 1891, with the general average for the whole period.

Monthly average price for 1,200 to 1,500 pound beeves for fourteen years.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Yearly average.
1891	$4.35	$4.40	$4.85	$5.00	$5.30	$5.05	$4.60	$4.35	$4.00	$4.10	$4.10	$4.35	$4.50
1890	4.05	4.10	4.20	4.40	4.55	4.30	4.20	4.20	4.15	4.00	3.90	4.10	4.15
1889	4.05	3.70	3.65	4.00	3.95	4.05	3.95	3.95	3.90	4.00	3.85	3.80	3.90
1888	4.35	4.30	4.45	4.45	4.60	5.45	5.25	5.15	5.05	4.60	4.35	4.30	4.70
1887	4.40	4.25	4.40	4.65	4.50	4.15	3.85	4.10	4.00	4.00	3.90	4.10	4.20
1886	5.00	4.65	5.05	5.10	5.25	5.05	4.50	4.30	4.25	4.20	4.30	4.10	4.75
1885	5.50	5.35	5.45	5.50	5.55	5.65	5.55	5.45	5.40	4.80	4.85	5.05	5.35
1884	6.05	6.00	5.90	6.10	6.15	6.30	6.20	5.75	5.75	5.95	5.40	5.05	5.90
1883	5.35	5.45	6.10	5.65	5.95	5.75	5.50	5.25	5.15	5.70	5.35	5.70	5.60
1882	5.60	5.75	6.30	6.45	7.80	7.40	6.70	6.30	5.85	5.60	5.40	5.50	6.25
1881	4.35	4.95	5.15	5.45	5.65	5.60	5.50	5.10	5.60	5.50	5.40	5.50	5.25
1880	4.85	4.65	4.90	4.80	4.95	4.50	4.10	4.60	4.90	4.95	5.00	5.10	4.75
1879	4.35	4.75	4.80	4.90	4.85	4.75	4.80	4.70	4.65	4.55	4.70	4.75	4.70
1878	4.55	4.65	4.30	4.65	4.70	4.80	4.05	4.00	4.45	4.20	4.20	4.15	4.40
Monthly average	4.85	4.80	4.95	5.10	5.25	5.20	4.90	4.80	4.80	4.70	4.60	4.70	4.90

Average price for fourteen years, $4.90.

Monthly average prices for Western range natives and half-breeds.

Year.	July.	August.	September.	October.	November.	December
1891	$4.10	$3.75	$3.90	$3.70	$3.45	$3.35
1890	3.30	3.55	3.60	3.30	3.25	3.00
1889	3.20	3.30	3.25	3.30	3.20	2.95
1888	4.45	4.55	3.70	3.50	3.70	3.45
1887	2.90	3.20	3.20	3.15	2.90	3.00
1886	3.85	3.85	3.25	3.35	3.20	3.25
1885	4.35	4.10	4.15	3.75	3.60	3.60
1884	4.20	4.75	4.70	4.45	4.40	4.10
1883	4.10	4.65	4.75	4.80	5.05	4.95
1882	5.20	5.20	4.80	4.70	4.25	4.55
1881	4.10	3.75	3.80	3.55	3.65	3.75
1880	....	3.15	3.50	3.60	4.15	....
1879	....	3.05	3.00	3.45	3.05	....
1878	4.10	3.60	3.20	3.40	3.80	....

Monthly average prices for Texas and Indian cattle for fourteen years.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1891	$3.00	$3.60	$3.75	$4.40	$4.00	$3.45	$3.50	$2.80	$2.85	$2.80	$2.65	$2.95
1890	3.30	3.20	3.20	3.40	3.45	3.30	2.85	2.60	2.55	2.75	2.75	2.65
1889	3.35	3.25	3.15	3.50	3.10	2.80	2.75	2.70	2.55	2.70	2.65	2.50
1888	3.20	3.15	3.50	3.55	3.50	3.25	3.30	2.95	2.80	2.65	2.80	2.65
1887	3.25	3.45	3.65	3.85	3.90	3.70	3.10	2.85	2.65	2.60	2.50	2.40
1886	3.80	3.95	4.30	4.50	4.45	4.00	3.50	3.20	3.00	3.05	2.90	2.80
1885	3.90	4.20	4.20	4.70	4.30	3.75	3.05	3.30	3.00	2.95	3.05	3.10
1884	4.75	5.00	5.10	5.30	5.20	5.00	4.35	4.05	4.20	3.70	3.55	3.40
1883	4.15	4.85	5.60	5.25	5.10	4.50	4.45	4.05	4.10	3.80	4.00	4.5[illegible]
1882	5.00	4.85	5.00	5.50	5.40	5.00	4.55	4.35	4.10	4.05	4.00	3.90
1881	......	......	......	......	......	3.75	3.80	3.40	3.30	3.25	3.40	3.55
1880	......	......	......	......	......	3.10	2.90	2.80	3.00	2.95	3.00	2.95
1879	......	......	......	......	......	3.00	3.10	3.05	3.10	3.15	3.00	......
1878	......	......	......	......	3.30	3.00	3.05	3.00	3.00	2.80	2.85	......

The first five months of each year represent "fed" cattle, and the last seven months mainly show prices for "grassers."

Monthly average price for heavy packing hogs, per 100 pounds, averaging 250 to 350 pounds.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly average.
1891	$3.60	$3.50	$4.20	$4.80	$4.60	$4.45	$4.90	$4.95	$4.90	$4.00	$3.90	$3.75	$4.30
1890	3.75	3.85	4.10	4.25	4.05	3.70	3.70	3.[illegible]0	4.30	4.20	3.85	3.55	3.90
1889	5.00	4.55	4.70	4.75	4.50	4.30	4.25	4.00	3.95	4.05	3.80	3.55	4.30
1888	5.60	5.45	5.40	5.50	5.65	5.65	5.95	6.35	6.35	6.00	5.50	5.20	5.70
1887	4.70	5.35	5.75	5.65	5.15	5.05	5.40	5.25	5.00	4.70	4.90	5.45	5.20
1886	4.05	4.30	4.35	4.25	4.15	4.25	4.85	4.75	4.55	4.15	3.85	4.45	4.30
1885	4.65	4.90	4.65	4.60	4.05	4.10	4.35	4.45	4.20	3.75	3.70	3.90	4.30
1884	6.10	7.00	7.10	6.35	5.70	5.45	5.50	6.25	5.50	5.20	4.55	4.35	5.75
1883	6.55	7.15	7.55	7.65	7.40	6.65	5.55	5.35	5.10	4.85	4.95	5.45	6.20
1882	6.80	7.05	7.00	7.35	7.60	8.30	8.55	8.65	8.80	8.05	7.05	6.50	7.65
1881	5.35	6.00	6.00	6.30	6.25	6.10	6.55	6.70	6.95	6.55	6.50	6.25	6.35
1880	4.65	4.50	4.45	4.55	4.30	4.35	4.85	5.25	5.45	5.10	4.85	4.80	4.85
1879	2.80	3.85	3.90	3.50	3.60	3.95	3.60	3.45	3.60	3.75	3.95	4.55	3.70
1878	4.05	3.95	3.75	3.60	3.30	3.75	4.30	4.35	3.95	3.40	2.95	2.75	3.65
Monthly average..	4.90	5.10	5.20	5.20	5.00	5.00	5.20	5.25	5.20	4.85	4.60	4.65	5.00

Average price for fourteen years, $5.

Monthly average price for light bacon hogs, per 100 pounds, averaging 150 to 190 pounds

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly average.
1891	$3.45	$3.60	$4.05	$4.70	$4.60	$4.45	$5.00	$5.05	$4.85	$4.35	$3.60	$3.55	$4.35
1890	3.60	3.90	4.10	4.20	4.05	3.75	3.80	3.80	4.30	4.00	3.70	3.35	3.95
1889	5.00	4.70	4.75	4.80	4.60	4.40	4.50	4.45	4.40	4.25	3.85	3.55	4.45
1888	5.10	5.15	5.20	5.35	5.50	5.50	5.80	6.20	6.00	5.80	5.40	5.15	5.50
1887	4.30	4.95	5.25	5.10	5.35	4.80	5.25	4.95	5.00	4.50	4.60	4.90	4.90
1886	3.75	3.90	4.05	4.00	3.90	4.15	4.60	4.40	4.25	4.00	3.70	4.10	4.10
1885	4.35	4.50	4.40	4.50	4.15	4.00	4.55	4.70	4.15	3.80	3.35	3.55	4.20
1884	5.50	6.35	6.30	5.65	5.40	5.15	5.25	5.95	5.75	4.80	4.35	4.05	5.40
1883	6.05	5.75	6.95	7.35	7.10	6.35	5.80	5.80	5.30	4.90	4.50	4.90	5.90
1882	6.25	6.40	6.35	6.90	7.45	7.75	8.15	8.00	8.00	7.20	6.35	5.85	7.05
1881	4.90	5.75	5.60	5.90	5.85	5.75	6.25	6.50	6.65	6.25	5.85	5.80	5.90
1880	4.50	4.30	4.35	4.45	4.25	4.20	4.65	5.10	5.15	4.70	4.65	4.55	4.55
1879	2.70	3.30	3.85	3.60	3.55	3.80	3.95	3.70	3.60	3.70	3.85	4.40	3.70
1878	3.85	3.75	3.60	3.50	3.10	3.35	4.00	4.10	3.85	3.30	2.70	2.55	3.45
Monthly average..	4.50	4.75	4.90	5.00	4.90	4.80	5.10	5.20	5.10	4.70	4.25	4.30	4.80

Average price for fourteen years, $4.80.

Monthly average price for 70 to 115-pound sheep.

Years.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly average.
1891	$4.60	$5.15	$5.50	$5.65	$5.50	$4.60	$4.25	$4.20	$4.25	$4.35	$4.50	$4.55	$4.75
1890	5.30	5.40	5.45	5.55	5.50	4.75	4.50	4.15	4.20	4.15	4.30	4.35	4.80
1889	4.40	4.60	4.45	5.00	3.80	3.75	4.25	4.00	3.95	4.00	4.30	4.85	4.30
1888	4.45	4.95	5.50	5.60	4.35	3.55	3.70	3.90	3.60	3.50	3.70	4.05	4.25
1887	4.05	4.10	3.85	4.40	4.25	3.85	3.55	3.50	3.60	3.65	3.60	4.15	3.90
1886	4.00	3.80	5.00	5.55	4.50	3.80	3.25	3.25	3.15	3.35	3.25	3.35	3.85
1885	3.65	3.55	3.65	4.15	3.70	3.50	3.05	3.10	3.15	3.00	2.75	2.85	3.35
1884	4.00	4.20	5.00	5.05	5.15	4.00	3.95	3.25	3.15	3.10	2.90	3.30	3.95
1883	3.60	3.90	4.10	4.05	4.00	3.25	3.20	3.25	3.20	2.95	3.00	3.10	3.45
1882	4.65	5.00	5.60	6.75	5.80	4.00	3.60	3.80	3.75	3.85	3.65	3.95	4.55
1881	4.50	4.75	5.20	5.60	5.85	5.00	4.00	3.90	3.75	3.80	4.15	4.25	4.60
1880	4.65	5.25	5.60	5.60	4.75	3.95	3.95	4.05	3.85	3.65	3.85	4.20	4.45
1879	3.50	4.00	4.40	4.95	4.50	3.75	3.70	3.60	3.55	3.45	3.75	3.80	3.80
1878	3.75	3.85	4.00	4.05	4.50	3.85	3.25	3.35	3.50	3.20	3.05	2.85	3.60

Average price for fourteen years, $4.10.

Chicago prices for 1892.

CATTLE.

Months.	Native steers. 1200–1500 pounds.	Native steers, 1500–1800 pounds.	Native cows, 600–1100 pounds.	Stockers and feeders.	Texans and Westerns.
January	$3.00–5.25	$4.25–5.85	$0.75–3.50	$2.00–3.90	$2.60–3.70
February	3.00–5.00	4.25–5.60	1.00–3.35	1.80–3.90	3.15–4.15
March	3.45–5.00	3.90–5.15	1.00–3.45	2.25–4.05	2.25–4.05
April	3.30–4.85	3.75–5.00	1.00–3.50	2.25–4.00	2.50–4.25
May	3.65–4.85	4.10–4.90	1.00–3.80	2.80–4.10	2.35–4.05
June	3.50–5.00	4.00–5.00	1.00–3.60	2.40–3.90	1.85–4.20
July	3.45–6.10	4.50–6.10	.75–4.00	1.50–3.60	1.50–5.25
August	3.10–5.50	4.50–5.70	1.00–3.25	1.50–3.40	2.00–4.50
September	2.85–5.50	4.25–5.75	.75–2.90	1.60–3.45	1.75–4.55
October	2.85–5.75	4.20–5.90	.75–3.25	1.60–3.50	1.65–4.60
November	3.00–5.85	4.35–5.90	.75–3.25	1.50–3.45	2.25–4.50
December	3.00–6.35	4.25–7.00	.75–3.60	1.70–3.55	2.35–4.50
Range 1892	2.85–6.35	3.75–7.00	.75–4.00	1.50–4.10	1.50–5.25
Range 1891	2.70–6.50	4.00–7.15	.75–4.60	1.40–4.75	1.90–5.60

SHEEP.

Months.	Native sheep, 60 to 150 pounds.	Native lambs, 40 to 100 pounds.	Western sheep, 70 to 150 pounds.	Texas sheep, 50 to 100 pounds.
January	$3.00–$5.75	$5.00–$7.00	$4.50–$5.45	$3.75–$4.85
February	3.75– 6.25	5.00– 6.85	4.15– 5.85	4.15– 5.35
March	3.65– 6.70	5.50– 7.00	4.50– 6.75	4.50– 6.15
April	3.50– 6.70	5.70– 7.05	5.15– 6.40	3.50– 6.35
May	2.75– 6.90	5.50– 8.25	4.60– 6.40	2.75– 5.75
June	2.50– 6.65	4.50– 8.00	4.00– 6.25	2.50– 5.50
July	2.90– 6.15	3.25– 7.10	3.75– 4.85	2.65– 4.75
August	3.00– 6.50	3.00– 7.05	3.50– 5.00	2.50– 4.90
September	3.00– 5.50	3.25– 6.25	3.50– 4.70	2.85– 4.50
October	3.00– 5.25	3.75– 6.00	3.75– 4.95	2.50– 4.55
November	2.25– 5.35	3.50– 6.00	3.75– 4.85	2.25– 4.70
December	2.50– 5.70	3.75– 6.40	3.00– 5.15	2.25– 4.90
Range 1892	2.25– 6.90	3.00– 8.25	3.00– 6.75	2.25– 6.35
Range 1891	2.00– 7.00	3.25– 8.50	3.25– 6.85	2.05– 5.75

Chicago prices for 1892—Continued.

HOGS.

Months.	Heavy packing, 250 to 450 pounds.	Mixed packing, 200 to 250 pounds.	Light bacon, 150 to 200 pounds.
January	$3.70 $4.72½	$3.65 $4.65	$3.60 $4.65
February	4.15 5.05	4.15 5.00	4.00 5.00
March	3.95 5.10	4.20 5.05	4.30 5.05
April	4.00 5.00	4.15 4.95	4.15 5.00
May	4.10 5.10	4.15 5.05	4.20 5.05
June	4.30 5.75	4.35 5.65	4.25 5.65
July	5.15 6.10	5.20 6.00	5.15 6.10
August	4.60 6.27½	4.60 6.15	4.60 6.20
September	4.60 5.70	4.65 5.65	4.60 5.70
October	4.75 5.97½	4.80 5.90	4.85 5.85
November	4.90 6.07½	4.90 5.95	4.90 5.85
December	5.50 7.00	5.50 6.85	5.35 6.85
Range, 1892	3.70 7.00	3.65 6.70	3.60 6.85
Range, 1891	3.25 5.70	3.25 5.75	3.15 5.95

The following table shows the range of prices of wool in the Eastern markets at the beginning of each calendar quarter during a period of forty-three years:

Prices of fine, medium, and coarse washed clothing Ohio fleece wool in the Eastern markets for the months of January, April, July, and October of each year from 1850 to 1892, inclusive.

[From Mauger & Avery's Annual Wool Circular.—This table exhibits, in a concise form, the prices of the three grades of a standard domestic fleece wool in the seaboard markets at the beginning of each quarter.]

Year.	January.			April.			July.			October.		
	Fine.	Medium.	Coarse.	Fine.	Medium.	Coarse.	Fine.	Medium.	Coarse.	Fine.	Medium.	Coarse.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1850	47	40	33	45	37	30	45	37	30	46	40	35
1851	46	40	33	50	44	36	47	42	37	45	40	35
1852	43	38	34	42	36	33	45	38	33	50	42	37
1853	58	56	50	62	56	50	60	53	48	55	50	48
1854	53	47	42	57	52	46	45	37	30	42	36	30
1855	40	35	32	43	35	32	50	40	33	52	41	36
1856	50	38	35	57	45	38	55	42	36	60	55	45
1857	58	50	42	60	56	45	56	50	40	38	30	25
1858	40	33	27	42	35	30	43	37	30	56	41	36
1859	60	52	45	60	46	37	56	40	35	60	50	42
1860	60	50	42	52	45	40	55	50	40	50	45	40
1861	45	40	37	45	37	32	38	30	22	47	48	50
1862	48	50	50	46	45	43	48	47	45	60	60	63
1863	75	68	70	80	85	80	75	70	65	85	80	76
1864	80	78	76	78	77	72	100	100	90	103	95	100
1865	102	100	96	80	80	75	75	73	65	75	75	65
1866	70	65	50	65	60	48	70	67	60	63	60	56
1867	68	53	50	60	55	50	55	49	45	48	46	40
1868	48	43	38	50	48	45	46	45	43	48	48	45
1869	50	50	48	50	50	48	48	48	47	48	48	46
1870	48	46	44	48	47	46	46	45	43	48	48	44
1871	47	46	43	50	52	47	62	60	55	63	62	58
1872	70	72	66	80	80	76	72	70	65	66	60	57
1873	70	68	65	56	53	48	50	48	44	54	53	47
1874	58	54	47	56	56	47	53	53	46	54	54	47
1875	55	56	47	54	52	46	52	49	46	48	50	42
1876	48	52	42	46	49	40	38	35	31	45	40	33
1877	46	43	36	45	40	33	50	44	37	48	44	36
1878	44	45	38	40	43	35	36	36	32	35	37	42
1879	34	35	32	34	34	31	37	38	34	41	43	38
1880	50	55	48	55	60	52	46	48	42	46	48	33
1881	47	49	43	40	44	37	42	44	36	43	46	32
1882	44	46	37	42	45	34	42	45	34	42	45	64
1883	40	43	33	44	44	37	39	41	33	39	40	34
1884	40	40	34	38	38	34	35	34	30	35	34	30
1885	34	33	29	32	32	28	32	31	28	33	35	32
1886	35	36	32	33	34	30	33	33	29	35	38	34
1887	33	38	34	33	37	33	34	37	34	32	36	34
1888	31	35	33	31	34	33	29	33	31	31	34	31
1889	34	38	33	33	37	31	35	39	32	33	37	31
1890	33	37	29	33	36	29	33	37	29	33	37	31
1891	33	37	31	32	37	31	31	35	29	31	35	30
1892	30	35	31	29	34	31	28	34	30	29	33	29

The average price of fine wool in January during the period of seven years from 1864 to 1870 was 66½ cents per pound; during a period of seven years from 1886 to 1892, it was 32½ cents—a decline of more than 50 per cent, and it was much greater for the other months.

The average of same grade during the years 1850 to 1860, both inclusive, was 55½ cents.

The aggregate production area and value of the cereals grown in the United States from 1867 to 1888 are shown in the table following. The committee have not the figures for all of the different grains since 1888, hence none are included in this table. Average prices of all of them except buckwheat will be found in another table.

Calendar year.	Total production.	Total area of crops.	Total value of crops.
	Bushels.	*Acres.*	
1867 *	1, 329, 729, 400	65, 636, 444	$1, 284, 037, 300
1868 *	1, 450, 789, 000	66, 715, 926	1, 110, 500, 583
1869	1, 491, 612, 100	69, 457, 762	1, 101, 884, 188
1870	1, 629, 027, 600	69, 254, 016	997, 423, 018
1871	1, 528, 776, 100	65, 061, 951	911, 845, 441
1872	1, 664, 331, 600	68, 280, 197	874, 594, 459
1873	1, 538, 892. 891	74, 112, 137	919, 217, 273
1874	1, 454, 180, 200	80, 051, 289	1, 015, 530. 570
1875	2, 032, 235, 300	86, 863, 178	1, 030, 277. 099
1876	1, 963, 422. 100	93, 920, 619	935. 008, 844
1877	2, 178, 934, 646	93, 150, 286	1, 035, 571, 078
1878	2, 302, 254, 950	100, 956, 260	913, 975, 920
1879	2, 437, 482, 300	102. 260, 950	1, 245, 127, 719
1880	2, 718, 193, 501	120, 926, 286	1, 361, 497, 704
1881	2, 066, 029, 570	123, 388, 070	1, 470, 957, 200
1882	2, 699, 394, 496	126, 568, 529	1, 469. 693, 393
1883	2, 629, 319, 088	130, 633, 556	1, 280, 765, 937
1884	2, 992, 880, 000	136, 292, 766	1, 184, 311, 520
1885	3, 015, 439, 000	135, 876, 080	1, 143, 146, 759
1886	2, 842, 579, 000	141, 859, 656	1, 162, 161, 910
1887	2, 660, 457, 000	141, 821, 315	1, 204, 289, 370
1888	3, 209, 742, 000	146, 281, 000	1, 320, 255, 398

*Oregon not included.

From this table it appears that the value of all the wheat, corn, oats, rye, barley and buckwheat produced in 1887 was $80,000,000, in round numbers, less than the value of half as much grain of same kind and quality produced on half as many acres twenty years before; and the difference is greater if we take 1888 in place of 1887.

By way of showing fluctuations in the aggregates, we have made the following combinations—dividing the years from 1867 to 1888 into four three-year periods:

Periods.	Total production.	Total area of crops.	Total value of crops.
	Bushels.	*Acres.*	
Three years, 1867, 1868, 1869	4, 272, 130, 500	201, 810, 132	$3, 496, 422, 071
Three years, 1876. 1877, 1878	6, 444, 611, 696	288, 027, 165	2, 884, 555, 842
Three years, 1879, 1880, 1881	7, 221, 705, 371	346, 575, 306	4, 077, 582, 623
Three years, 1886, 1887, 1888	8, 712, 778, 000	429, 961, 971	3, 686, 706, 678

The average price per bushel of these combined crops in the first period was 81¾ cents; for the second period, 44¾ cents; for the third period, 56½ cents; and for the fourth period, 42¼ cents. It appears that the second period and the fourth period are very nearly alike in their averages of price. From the first period to the third period there was a drop from 81¾ cents to 56½ cents, showing that the fall during that period was greater than it was during the last-named period.

Taking the crops separately we find similar fluctuations.

Corn was rated at 75 cents a bushel in 1869; it has never been that high since, though it was 64 cents in 1874 and 63 cents in 1881.

Wheat was $1.25 in 1871 and $1.24 the next year afterwards. It was above $1 in each of nine years of the twenty-four. Though the price in 1869 was 94 cents, that was 50 per cent higher than the figures for 1892. The average for 1893 is 65 cents. The average price for the thirteen years, 1869 to 1881, inclusive, was $1.05; for the remaining eleven years, 1882 to 1892, the average price was 76 cents—38 per cent higher in the first period than in the second; or, what is the same thing, a drop of 36 per cent from the first to the second.

Rye in 1867 and 1868 was $1.40 and $1.27, respectively, and it never reached $1 afterwards, though it was 93 cents in 1881. It was 52 cents in 1878 and 53 cents in 1886.

Oats was but a trifle more than half as high in 1892 as it was in 1867; it was down to 22 cents in 1889 and to 24 in 1878.

Barley was $1.30 in 1868, and less than half that twenty years later, though it was as high as 92 cents in 1874.

Buckwheat ranged from $1.09 in 1867 and $1.04 the next year to 52 cents in 1878 and 54 cents in 1886.

The yield per acre has been well maintained, but the values of the returns have been much lessened, as the following tables show:

Yield per acre and value per acre of the cereal crops of the United States from 1869 to 1892, inclusive.

[From the annual reports of the Department of Agriculture.]

CORN.

Calendar year.	Average yield per acre.	Average value of yield per acre.	Calendar year.	Average yield per acre.	Average value of yield per acre.	Calendar year.	Average yield per acre.	Average value of yield per acre.
	Bushels			*Bushels.*			*Bushels.*	
1869	23·6	$17.75	1877	26·6	$9.54	1885	26·5	$8.69
1870	28·3	15.57	1878	26·9	8.55	1886	22	8.06
1871	29·1	14.02	1879	29·2	10.93	1887	20·1	8.93
1872	30·7	12.24	1880	27·6	10.91	1888	26·2	8.94
1873	23·8	11.41	1881	18·6	11.82	1889	27	7.63
1874	20·7	13.40	1882	24·6	11.94	1890	20·7	10.48
1875	29·4	12.38	1883	22·7	9.63	1891	27	10.97
1876	26·1	9.69	1884	25·8	9.19	1892	23·1	9.09

WHEAT.

1869	13·5	$12.76	1877	13·9	$15.02	1885	10·4	$8.05
1870	12·4	12.94	1878	13·1	10.[illegible]	1886	12·4	58.4
1871	11·5	14.56	1879	13·8	15.27	1887	12·1	8.25
1872	11·9	14.87	1880	13·1	12.48	1888	11·1	10.30
1873	12·7	14.59	1881	10·1	12.03	1889	12·9	8.98
1874	12·3	11.66	1882	13·6	12.02	1890	11·1	9.28
1875	11	11.16	1883	11·6	10.56	1891	15·3	12.86
1876	10·5	10.86	1884	13	8.38	1892	13·4	8.35

RYE.*

1867†	13·7	$19.24	1875	13·0	$10.02	1882	13·4	$8.28
1868†	13·6	17.37	1876	13·8	9.28	1883	12·1	7.04
1869	13·5	13.20	1877	14·9	8.87	1884	12·2	6.34
1870	13·1	10.72	1878	15·9	8.38	1885	10·2	5.92
1871	14·3	11.35	1879	14·5	9.54	1886	11·5	6.19
1872	14·1	10.84	1880	13·9	10.50	1887	10·1	5.50
1873	13·1	10.04	1881	11·6	10.80	1888	12	7.07
1874	13·4	11.52						

Yield per acre and value per acre of the cereal crops of the United States, etc.—**Cont'd.**

OATS.

Calender year.	Average yield per acre.	Average value of yield per acre.	Calender year.	Average yield per acre.	Average value of yield per acre	Calender year.	Average yield per acre.	Average value of yield per acre.
	Bushels.			*Bushels.*			*Bushels.*	
1867†	25·9	$16.05	1876	24	$8.44	1885	27·6	$7.88
1868†	26·3	14.74	1877	31·6	9.25	1886	26·4	7.87
1869	30·4	14.51	1878	31·4	7.74	1887	25·4	7.74
1870	28·1	12.18	1879	38·7	9.50	1888	25.9	7.24
1871	30·5	12.26	1880	25·8	9.28	1889	27·4	6.26
1872	30·1	10.14	1881	24·7	11.48	1890	19·8	8.40
1873	27·7	10.37	1882	26·4	9.89	1891	28·9	9.08
1874	22	11.47	1883	28·1	9.20	1892	24·4	7.73
1875	29·7	10.86	1884	27·4	7.58			

BARLEY.

1867†	22·7	$20.00	1875	20·6	$16.73	1882	21·5	$13.54
1868†	24·4	31.79	1876	21·9	14.57	1883	21·1	12.38
1869	27·9	22.79	1877	21·3	13.64	1884	23·5	11.42
1870	23·7	20.05	1878	23·6	13.67	1885	21·4	12.04
1871	22·6	18.29	1879	24·0	14.11	1886	22·4	12.00
1872	19·2	14.20	1880	24·5	16.32	1887	19·6	10.15
1873	23·1	21.15	1881	20·9	17.21	1888	21·3	12.57
1874	20·6	18.97						

BUCKWHEAT.

1867†	17·4	$19.11	1875	17·5	$12.45	1882	13·0	$9.49
1868†	17·8	18.68	1876	14·5	10.53	1883	8·9	7.35
1869	16·9	15.37	1877	15·6	10.76	1884	12·6	7.45
1870	18·3	14.38	1878	18·2	9.59	1885	13·8	7.72
1871	20·1	16.67	1879	20·5	12.28	1886	12·9	7.04
1872	18·1	15.04	1880	17·7	10.55	1887	11·9	6.72
1873	17·2	14.05	1881	11.4	9.90	1888	13·2	8.36
1874	17·7	14.31						

*Figures for rye, barley, and buckwheat for the years 1889 to 1892 are not at hand.

†Oregon not included.

HAY.

As to hay, the following table shows the estimated annual acreage, product, and value of the hay crop of the United States from 1867 to 1888, inclusive. Prices since 1888 we have not been able to procure:

Year.	Acreage.	Production.	Home value.	Year.	Acreage.	Production.	Home value.
	Acres.	*Tons.*			*Acres.*	*Tons.*	
1867	20,020,554	28,277,000	$372,864,670	1878	26,931,300	39,608,296	$285,543,752
1868	21,541,573	26,141,900	351,942,930	1879	24,484,991	35,493,000	330,804,494
1869	18,591,281	26,420,000	327,662,600	1880	25,863,955	31,925,233	371,811,084
1870	19,861,805	24,525,000	338,969,680	1881	30,888,700	35,135,064	415,131,366
1871	19,009,052	22,239,400	351,717,035	1882	32,339,585	38,138,049	369,958,158
1872	20,318,936	23,812,800	345,969,079	1883	35,515,948	46,864,009	383,834,451
1873	21,894,084	25,085,100	339,895,486	1884	38,571,593	48,470,460	390,139,309
1874	21,769,772	25,133,900	331,420,738	1885	39,849,701	44,731,550	389,752,873
1875	23,507,964	27,873,600	342,203,445	1886	36,501,688	41,796,499	353,437,699
1876	25,282,797	30,867,100	300,901,252	1887	37,664,739	41,454,458	413,440,283
1877	25,367,708	31,629,300	271,934,950	1888	38,591,903	46,643,094	408,499,565

Productiveness has been well maintained, but the value per ton has fallen materially. The average prices per ton were as follows for the years mentioned:

1867	$14+	1880	$11+
1870	14—	1885	9—
1875	12+	1888	8+

Potato lands produced well and maintained their average yield, but prices fell greatly, as the following figures show:

Annual acreage, product, and value of the potato crop in the United States from 1867 to 1888, inclusive.

Year.	Acreage.	Production.	Home value.	Year.	Acreage.	Production.	Home value.
	Acres.	*Bushels.*	*Dollars.*		*Acres.*	*Bushels.*	*Dollars.*
1867	1,192,195	97,783,000	89,276,830	1878	1,776,800	124,126,650	73,059,125
1868	1,131,552	106,090,000	85,150,040	1879	1,836,800	181,626,400	79,153,673
1869	1,222,250	133,866,000	71,651,730	1880	1,842,510	167,659,570	81,062,214
1870	1,320,119	114,775,000	82,668,590	1881	2,041,670	109,145,494	99,291,341
1871	1,220,912	120,461,700	71,836,671	1882	2,171,635	170,972,508	95,304,844
1872	1,331,331	113,516,000	68,091,120	1883	2,289,275	208,164,425	87,848,991
1873	1,295,139	106,089,000	74,774,890	1884	2,220,980	190,642,000	75,524,290
1874	1,310,041	105,981,000	71,823,330	1885	2,265,823	175,029,000	78,153,403
1875	1,510,041	166,877,000	65,019,420	1886	2,287,136	168,051,000	78,441,940
1876	1,741,983	124,827,000	83,861,390	1887	2,357,322	134,103,000	91,506,740
1877	1,792,287	170,092,000	76,249,500	1888	2,533,280	202,365,000	81,413,589

Average per bushel.

	Cents.		Cents.
1867	91	1880	48
1870	72	1885	44
1875	39	1888	40

In 1868 the production was 106,090,000 bushels and the aggregate value was $85,150,040; in 1888 the production was 202,365,000 bushels and the value was $81,413,589—nearly twice as many bushels in 1888 as in 1868 and nearly $8,000,000 less in value.

COST OF PRODUCTION.

An important item bearing on prices and depression of farm products is the cost of production. For interesting details on this point see statistics for Ohio, Michigan, and Illinois in "State statistics," beginning at p. 167.

OHIO.

The estimated cost of producing an acre of wheat in Ohio is $11.02. Allowing $2.06 for straw, at an average yield of 13·1 bdshels, worth 84.1 cents per bushel, we have a net profit per acre of $2.83. A larger yield, of course, increases the net gain.

In the same State it costs $13.29 to produce an acre of corn, and at the rate of 34 bushels per acre, making allowance of $1.82 net for fodder, 52 cents a bushel gives a net profit of $6.21.

MICHIGAN.

From reports for 1889, it appears that computing for the entire State the wheat crop paid, in addition to wages and other expenses, 4·2 per cent on the value of the land on which it was grown. The cost, exclusive of interest, of raising and marketing the three crops—wheat, corn and oats—was $6,651 more than the total value of the crops; that is to say, farmers lost on their three principal crops the interest on the value of the land and $6,651 in expenses.

To make these crops worth as much at the prices ruling January 1, 1890, as it cost to produce them, an average yield in the State of 17·50 bushels of wheat, of 36·02 bushels of corn, and of 45·11 bushels of oats was necessary.

The following shows the value of the crops raised in 1889, figured from the best data available:

Wheat	$16,728,803
Corn	7,254,245
Oats	7,390,457
Hay	14,016,194
Cloverseed	1,295,861
Potatoes	5,279,971
Apples and peaches sold	1,593,877
Small fruits sold	555,305
Market-garden products sold	384,518
Total	54,499,231

The total value of the crops named above is $54,499,231. This is an average of $395, for each farm, and nearly $7 per acre of improved land in the State.

ILLINOIS.

In Illinois it costs $10.20 to produce an acre of wheat, and the average yield since 1873 has been a little less than 14 bushels. The average price of wheat during the years from 1873 to 1882 was 94 cents per bushel, while for the years from 1883 to 1892, the average was 76½ cents, a difference of 17½ cents a bushel, a decline of about 19 per cent.

By comparison of cost and value of wheat crops in Illinois for each of the last twenty years, it is found that before the year 1882 there were four years in which the crop was not worth as much as it cost, and that since 1882, there have been six such years.

As to corn, it appears that on an average its value does not exceed the cost of production. From 1873 to 1882 the average price per bushel was 36⅓ cents, and since that time the average has been 33⅓, a decline of 8⅓ per cent.

KANSAS.

In this State, as appears in the report of the secretary of the State Board of Agriculture for the first quarter of the year 1890, it cost 50 cents to raise a bushel of wheat, allowing the average production to be 15 bushels per acre; and at 30 bushels to the acre it costs 21 cents to produce a bushel of corn.

PENNSYLVANIA AND NEW YORK.

In these two States the average cost of producing a bushel of wheat is about 65 cents, and corn about 30 cents.

Having examined the subject carefully, and having viewed it from many points of observation, the committee have arrived at the conclusion that, while there have been fluctuations and while different conditions prevail in different localities, and prices have been maintained nearer a paying level in some places than in others, upon the whole, all things considered and taking the country over, there has been a settling downward of the general level of the prices of farm lands and farm products since 1873, and that the depression has been on the average about 30 per cent.

CAUSES OF DEPRESSION.

Causes of the depression may be divided into three classes—

First. Special causes, which affect particular classes or species of property locally.

Second. General causes which affect particular kinds of property.

Third. General causes which affect all kinds of property in greater or less degree.

Special causes.—Local prices of grain are more or less affected by local conditions, as increase or decrease of production in particular localities, state of trade in places near or remote from railway stations, increase or decrease of bulky and perishable articles, local demand to supply deficiencies in neighboring communities and the like.

Local values of live stock are affected by prices of feed, conveniences for marketing, local competition, strife among breeders of different varieties of the same species of animals, disease, drought, storms, depredations of wild animals, shortness of crops, etc.

Local land values are affected by sparseness or density of settlement, by peculiarities of communities, by habits of thrift or carelessness among farmers, by local organization of citizens, by variableness or regularity of climatic conditions, by staying qualities of the people, by fruitful or barren soil capabilities, by healthfulness of climate, financial conditions of neighborhoods, etc. It often happens that the demands of a few men who want to enlarge their farms or want to buy land for future use or speculation, give an upward turn to land values in a whole county; and on the other hand, the sale of a few tracts by persons who want to find a "better place," or the advertising of lands by the sheriff, puts prices of adjoining lands on the downward turn.

General causes which affect particular kinds of property.—The cereals being annual productions, their market values are affected more or less by large or small yields from year to year. This is true not only as to local prices but to market values of the surplus generally. Effects produced from this cause are much less now than in years before facilities for distribution had reached their present state of development. When thirty to forty days were required for the passage of a ship with a cargo of 10,000 bushels of wheat across the Atlantic Ocean, before telegraph wires and cables were used to convey information concerning crops, before the Suez Canal was opened for traffic, and before steamships were built that can carry 100,000 bushels of grain from New York to Liverpool in ten days, a very heavy crop or a very light crop of any particular kind of grain in the United States materially affected market prices here for the surplus. Now, however, with present conveniences for handling, storing, and shipping grain, with low rates of transportation over long distances, it is the world's production, and not that of any one country, that affects market values of grains that go into the channels of commerce.

Competition among farmers affects prices of farm products just as competition in other departments of industry affects values in those departments. Farmers, however, are at a disadvantage in this respect on account of their comparative isolation. Manufacturers may and frequently do combine, forming corporations, syndicates, trusts, etc., and that is not difficult to do, because that class of producers operate in densely populated places—in towns and cities where organization is easy and where community of interests logically tend to consolidation for the purpose of preventing hurtful competition in business. Farmers are not in condition to make business combinations among themselves easy, and it is only the wisest of their calling that have begun to consider what may eventually be done in that direction with good effect.

There is usually much of sameness in farming methods in given communities; farmers there all do their work pretty much alike, and it is only in exceptional cases where one greatly excels another in amount of production on the same quality and area of land. These local inequalities, however, have no effect on prices; they only add more or less to the success of individual farmers who are more or less careful, diligent, and frugal in their farming operations.

But there is a kind of competition among grain farmers that does affect prices locally and generally—what has been known as "bonanza" farming, as it is carried on by men who operate on large tracts of land acquired when land values were low.\ These great farms are common in Wyoming, Montana, the Dakotas, and in the Pacific States. The largest wheat farms east of the Rocky Mountains are found in North Dakota along the line of the Northern Pacific Railroad. The Official Northern Pacific Railroad Guide gives a description of one of them in the following paragraphs found on pages 126 *et seq.*

> Messrs. George W. Cass and Benjamin P. Cheney, both heavy capitalists and directors in the railroad company, having faith in the fertility of the land, determined to test its capacity for wheat production. They first bought, near the site of the present town of Casselton, 7,680 acres of land from the railroad company, and then secured the intervening Government sections with Indian scrip, thus obtaining compact farming grounds of enormous area. Mr. Oliver Dalrymple, an experienced wheat farmer, was engaged to manage the property; and in June, 1875, he turned his first furrow, plowing 1,280 acres, and harvested his first crop in 1876. The acreage was increased in each succeeding year, until in 1882 there were not less than 27,000 acres under cultivation. This immense farm does not lie in one body. One part of it, known as the Grandin farm, is situated in Traill county, 30 miles north of Casselton. The entire area embraced by the three tracts is 75,000 acres. Farming operations conducted on so gigantic a scale seem almost incredible to persons who are only familiar with the methods of the older and more settled States. In managing the affairs of a "bonanza farm" the most rigorous system is employed, and the cost of cultivation averages about $1 per acre less than smaller estates. The plan adopted by Mr. Dalrymple and all the other "bonanza" men is to divide the land into tracts of 6,000 acres each, and these are subdivided into farms of 2,000 acres each. Over each 6,000 acres a superintendent is placed, with a bookkeeper, headquarters building, and a storehouse for supplies. Each subdivision of 2,000 acres is under the charge of a foreman, and is provided with its own set of buildings, comprising boarding houses for the hands, stables, a granary, a machinery hall, and a blacksmith's shop, all connected with the superintendent's office by telephone. Supplies of every description are issued only upon requisition to the several divisions. Tools and machinery are bought by the carload from manufacturers; farm animals are procured at St. Louis and other principal markets; stores of every description for feeding the army of laborers are purchased at wholesale; and the result of the thorough system and intelligent economy in every department is found in the fact that wheat is raised and delivered at the railroad at a cost varying little from 35 cents per bushel. The net profit on a bushel of wheat is seldom less than 10 cents, and the average yield per acre may safely be put at 15 bushels, although it often exceeds that quantity.
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> On this great farm, or rather combination of farms—the 20,000-acre tract at Casselton—400 men are employed in harvesting and 500 to 600 in threshing. Two hundred and fifty pairs of horses or mules are used, 200 gang plows, 115 self-binding reapers, and 20 steam threshers. About the first of August the harvester is heard throughout the length and breadth of the land, and those who have witnessed the operation of securing the golden grain will never forget the scene. The sight of the immense wheat fields, stretching away farther than the eye can reach, in one unbroken sea with golden waves, is in itself a grand one. One writer describes the long procession of reaping machines as moving like batteries of artillery, formed *en echelon* against the thick-set ranks of grain. Each machine is drawn by three mules or horses, and with each gang there is a superintendent, who rides along on horseback, and directs the operations of the drivers. There are also mounted repairers, who carry with them the tools for repairing any break or disarrangement of the machinery. When a machine fails to work, one of the repairers is instantly beside it, and, dismounting, remedies the defect in a trice, unless it proves to be serious. Thus the reaping goes on with the utmost order and the best effect. Traveling in line together, these 115 reaping machines would cut a swath one-fifth of a mile in width, and lay low 20 miles of grain in a swath of that great size in the course of a single day.

This method of farming has brought the cost of producing wheat down to about 35 cents a bushel on an average yield in two States—North Dakota and South Dakota. The crop in 1889, which was below an average crop year there, yielded nearly 43,000,000 bushels (42,929,583 are the census estimates first published and subject to correction) of wheat, nearly 10 per cent of the total wheat crop of the whole country, and of this amount at least 30,000,000 bushels were surplus thrown on the market, an amount equal to more than one-fifth of our average annual exportation of wheat, including wheat flour.

When it is considered that the market price of our surplus wheat is fixed in Liverpool, England, and that the export price to a large extent controls the price for what is sold in the home markets, it is readily seen that so large a quantity of 35-cent wheat thrown on the market must have a depressing effect on the general average of profits in wheat farming.

In California "bonanza" wheat farms are larger than those of North Dakota. It is not uncommon to find one man in this State exercising rights of ownership over a tract of 50,000 acres of land, and from that up to 100,000. The committee heard of one case where two men claim to own 200,000 acres, and most of this is wheat land. Hon. John Boggs, president of the State Agricultural Society, thus describes the methods of raising wheat on the large farms of California:

> For instance, we do all our summer plowing (more properly speaking, spring plowing) with gang plows. As large farming is done with these gangs, which consist generally of 8 plows attached together, or 8 plows in 1 frame, 1 man with a team of 6 or 8 horses can plow 6 acres per day. In seeding the ground we use the common broadcast seeder followed by an 8-horse harrow. Under this system we can seed 20 acres per day in good order.
>
> In harvesting our crops we use the combined harvesters, which cut from 28 to 30 acres per day. A harvester with an 18-foot cut of sickle will, in an average grain field, cut and thrash from 350 to 400 sacks, or 800 to 900 bushels, per day, at a cost, counting wear and tear of machinery, feed of animals, wages and board of men, not to exceed $1 per acre.

Under the old methods of farming in California the cost of producing an acre of wheat was from $5 to $6, while now it is done for half that amount, and the cost of producing a bushel of wheat has been reduced accordingly to about 22 cents on an average crop.

The wheat-harvest time extends, usually, over a period of sixty to ninety days. It is rare that rain falls on the wheat fields between May and September. The straw is short and stands erect, curing in the warm sunshine, and the heads bend over gracefully, holding the berries in place firmly to the end of the season. During so long a harvest one machine can cut over an immense area, and a modern California harvester is a ponderous machine. It is drawn by a team consisting (according to size and capacity of the machine) of 16 to 30 horses, and cuts, threshes and sacks the grain at the rate about an acre to the horse each day. The horses are worked 8 abreast the first two or three tiers, with 4 or 2 in the lead. A 26-horse team has three tiers of 8 horses each, with 2 horses in front, and a 28-horse team has 4 horses leading. One man drives the team, one looks after the machine, while a third sews the sacks as they are filled. Thus 3 men dispose of 25 to 30 acres—often much more—of wheat in one day. Men with two or four horse wagons follow the machines at proper intervals of distance and gather up the sacks and haul them to the owner's warehouses, on the railroad. These large farms extend many miles along the roads.

In 1889 California produced over 40,000,000 bushels of wheat, of which at least 30,000,000 bushels were exported. This amount, added to

Dakota's surplus, gives a total of 60,000,000 bushels of surplus wheat, more than two-fifths of our average annual export. If Dakota's 30,000,000 bushels of 35-cent wheat affects the general level of wheat prices, it is easy to see that the addition of an equal quantity of 22-cent wheat from California must put that much more weight on the price to push it down.

Our wheat prices are affected materially by competition of farmers in other wheat-producing countries. The estimated average annual wheat production of the world is about 2,200,000,000 bushels. The wheat importing and exporting countries are thus classified:

Importing countries.—Belgium, France, Germany, Greece, Italy, Norway and Sweden, Netherlands, Portugal, Spain, Switzerland, United Kingdom.

Exporting countries.—Austria-Hungary, Bulgaria, Roumania, Russia, Servia, India, United States, Argentine Republic, Canada, Chile, Australasia.

Excluding the United Kingdom of Great Britain and Ireland, and Belgium, Europe is practically self-supplied with wheat. That is to say, with these two exceptions, the different countries of Europe are able to supply one another with all the wheat they need in average years.

For all practical purposes, it may be said, therefore, that the wheat required by Great Britain and Belgium composes the quantity which is known as the world's demand, and to supply which the farmers of all wheat exporting nations are in continual competition.

The following statement shows the wheat-producing portions of the world, and the months of their respective harvests:

January.—Australia, Argentine, Chile and New Zealand.

February and March.—East India and Upper Egypt.

April.—Asia Minor, Cuba, Cyprus, India, Lower Egypt, Mexico, Persia, and Syria.

May.—Algeria, Central Asia, China, Florida, Japan, Morocco, and Texas.

June.—Alabama, Arkansas, California, Carolina, Colorado, Georgia, Greece, Italy, Kansas, Kentucky, Louisiana, Mississippi, Missouri, Oregon, Portugal, South of France, Spain, Tennessee, Turkey, Utah, and Spain.

July.—Austro-Hungary, Bulgaria, France, Germany, Illinois, Indiana, Iowa, Michigan, Minnesota, New York, Nebraska, Ohio, Roumania, South of Russia, Switzerland, South of England, and Upper Canada.

August.—Belgium, Columbia, Denmark, Great Britain, Holland, Lower Canada, Manitoba, and Poland.

September and October.—Norway, North of Russia, Scotland, and Sweden.

November.—Peru and South Africa.

December.—Burmah.

It matters not when our farmers market their wheat, it goes at a time when farmers in some other part of the world are harvesting their wheat. It is "wheat harvest" in one place or another every day in the year.

The average annual demand for wheat in the "world's market" is now considerably above 200,000,000 bushels. From 1880 to 1888 the estimated annual average world's production was about 2,000,000,000 bushels, and of that quantity the average annual requirement of the nations that buy was 203,000,000 bushels, of which amount United States farmers supplied the following percentages:

Year.	Per cent.	Year.	Per cent.
1880	69·13	1885	35·44
1881	55·70	1886	47·95
1882	49·78	1887	41·76
1883	34·86	1888	19·90
1884	40·34		

These figures do not include exports of wheat flour. They are given to show that the proportion of the world's demand for wheat which was supplied by American farmers has been falling off since 1880. The average annual percentage since 1888 has been about 35 per cent, one-half what it was in 1880.

Much the larger proportion of our wheat exports go to Great Britain. The following table shows who are our competitors there, and the extent of their competition:

Wheat importations of the United Kingdom.

[Yearly imports into the United Kingdom, by countries, of wheat, and flour represented as wheat in bushels of 60 pounds, for seven years, compiled by the Cincinnati Price Current.]

	1892.	1891.	1890.	1889.	1888.	1887.	1886.
U. S. Atlantic ports	50,435,000	32,661,000	11,998,000	9,417,000	11,618,000	38,337,000	25,259,000
U. S. Pacific ports	12,811,000	12,503,000	20,111,000	22,347,000	15,723,000	18,605,000	20,701,000
United States	63,246,000	45,164,000	32,109,000	31,764,000	27,341,000	56,941,000	45,900,000
India	23,325,000	24,278,000	17,008,000	17,205,000	15,286,000	15,884,000	20,587,000
Russia	8,144,000	27,165,000	36,194,000	39,800,000	39,888,000	10,309,000	6,926,000
Australia	3,765,000	3,893,000	5,708,000	2,625,000	4,323,000	2,515,000	1,379,000
British North America	7,233,000	5,924,000	2,106,000	2,181,000	2,033,000	7,401,000	5,751,000
Germany	1,132,000	1,333,000	2,055,000	4,739,000	6,094,000	2,880,000	2,460,000
Chile	4,270,000	3,957,000	45,000	1,070,000	2,774,000	4,118,000	3,176,000
Roumania	1,377,000	2,032,000	8,687,000	5,343,000	2,649,090	1,093,000	542,000
Turkey	922,000	2,819,000	1,680,000	1,246,000	341,000	4,000	464,000
Egypt	719,000	1,749,000	793,000	607,000	1,362,000	369,000	76,000
Other countries	6,997,000	5,470,000	6,500,000	2,811,000	4,729,000	2,617,000	1,167,000
Total	121,130,000	123,784,000	112,885,000	109,391,000	106,820,000	104,132,000	88,488,000

It will be seen that our strongest rival is India, whose farmers during the seven years furnished nearly one-half as much as we did of the wheat requirements of our best customer. It is interesting to note that India's exports of wheat in considerable quantities began but about twenty years ago. Of the world's requirements of wheat in 1868, that country furnished only 558,852 bushels—but little over half a million. By 1887 her wheat exports amounted to 41,558,765 bushels. It has fallen off some since; the annual average from 1888 to 1891 was about 28,000,000 bushels.

Our annual average export of wheat (exclusive of flour) has been about 80,000,000 bushels during the last seven years. If the Liverpool price governs prices at other places, it is easy to see that India wheat competition in that market, to the extent shown in the foregoing figures, does injuriously affect the price of American wheat.

Some of our correspondents forcibly argue that the depreciation of the market price of silver bullion, as compared with the money value of gold coin, has had a good deal to do with lowering the wheat market at Liverpool, and that it has greatly augmented the force of India wheat competition.

India has been a silver-using country, and the depreciation of silver bullion has enabled speculators to profit by purchasing bullion at market rates, and, after having it coined at India mints, purchasing wheat with it at coin rates. Doubtless this profit margin on silver has greatly stimulated the production of wheat in India. That country being a dependency of Great Britian, the Government has encouraged agriculture there in many ways. Improved implements have gone into use within the last twenty years, highways have been opened, railroads constructed, and facilities for harvesting, handling, and shipping wheat have been multiplied. The opening of the Suez Canal has cheapened transportation from Bombay and Calcutta to Liverpool 50 per cent. Wages of India farm hands are from 6 to 10 cents of our money per day. Wheat costs but about 13 cents a bushel on the farm. Twelve cents more puts it aboard ship and 25 cents additional places it on the wharves at Liverpool or London. Thus 50-cent wheat from India competes with wheat grown on American farms at an average cost of 60 cents a bushel. And, as we have seen, India has supplied the English market with nearly half as much wheat as the United States has during the last seven years, and together they have supplied three-fourths of the wheat supply. The fact may be stated substantially thus: The American farmer supplies 2 bushels in a total supply of 4 bushels; the India farmer supplies 1 bushel, and in this proportion for all that is supplied by both. Query No. 1. How much effect on price has one-fourth the supply? Query No. 2. How much of the India wheat competition may be justly laid at the door of silver?

When gold and silver are at par with each other, an ounce of silver bullion is worth a little more than $1.29 (exactly stated the figures are $1.2929). Our ratio between silver and gold is a small fraction less than 16 of silver to 1 of gold by weight. The ratio in India is 15 to 1. Under the free coinage laws of India—free coinage was abolished in 1893—a person purchasing bullion at reduced rates and having it coined at the mints of that country, made a clear profit of the difference between the cost of the bullion and the money value of the coin. To illustrate: If a wheat dealer purchased silver bullion when it was selling for only 75 per cent of its coin value—that is, when 75 cents worth of bullion would make a dollar when coined—he would make 25 cents clear profit on every 75 cents worth of silver that he purchased at that rate. Say he purchased $75 worth of bullion; when it is coined he has $100. With the coin he purchases wheat and ships it to Liverpool, where he sells it in competition with American wheat. He gets $100 worth of wheat for $75 worth of silver made free into silver coins (rupees) of India.

But while this speculator makes 33⅓ per cent on the deal, and he made it on the silver, not on the wheat, it will not do to say that the American farmer lost an equal percentage on the wheat that he sold in competition with that of the India trader. Wheat competes with wheat, not with silver. It is the competition with wheat that hurts, and not the competition of wheat with silver. The situation is plainly seen, by considering a wheat transaction with the silver question eliminated. Suppose there were no purchasing and coining of silver in the trade. A Bombay merchant purchases a cargo of India wheat and pays for it with silver rupees that he has had on hand twenty years. He does not pay for it either more or less than would a trader who had purchased a like quantity of wheat and had paid for it with new coins made of depreciated silver bullion. The merchant ships his wheat to Liverpool, and at the same time the speculator ships his. The two cargoes of wheat arrive at Liverpool the same day, and they bring the same price per bushel, notwithstanding the fact that one of the shippers made a large profit out of a silver trade, while the other did not deal in silver at all. And the American farmer suffers no more from one than from the other of these two transactions.

Let it not be understood, however, that no loss has occurred to our farmers by reason of the decline in the market value of silver bullion as compared with the money value of gold coin. That subject will be fully discussed when we come to consider general causes which affect the prices of *all* commodities. We are now treating causes which affect prices of *particular* articles, and have in hand the effect on prices of American wheat produced by competition with India wheat.

IMPROVED METHODS OF FARMING.

Improvements in farm implements and machinery have had some effect on prices of things produced on farms. The effect is most marked, however, on large estates where farming operations are carried on on a large scale. It is doubtful whether the cost of producing grain on small farms is much less now than it was before the use of machinery became common. The object of using machines is to save labor; hence if no labor were displaced there would be no gain. Where one man with his family can perform all the work required on his farm he would lose and not gain by the use of machines, because he would have to pay money for them and he is able to do the work without them. It is different in case of a large farm, where, if the labor were all performed by hand, a great many persons must be employed. It would not be practicable now to conduct a very large farm by manual labor, for, while men could be procured for this kind of work as well as for other kinds, at present prices for farm products, and at present prices of farm labor, the expenses would greatly exceed the profits. Bonanza farming has proved that with judicious use of machinery wheat farming can be made to pay, even at very low prices for the product.

The principal effect of using machinery on small farms is to get the same work done with less manual assistance. Under the old régime it usually required the services of 12 persons to put 12 acres of wheat into sheaves in 2 days; now 1 man with a machine and 3 or 4 horses can do that much. But the difference in expense is not great. It costs about as much now, all things considered, to take care of a small wheat crop as it did when "harvest hands" were plenty on every farm during the harvest time. And as to farm work during other portions of the year, while labor is saved by the use of improved implements, wages are higher now, and, in many instances, enough higher to absorb the saving.

It is true, however, that production in the aggregate has been increased by the use of labor-saving implements, and while the cost has not been greatly lessened on small farms it has been reduced materially on large farms; and, speaking generally, it may be said that the use of labor-saving implements and machinery has had some influence in depressing the price of wheat.

OVERPRODUCTION.

Some of our correspondents are of opinion that the low price of wheat has been occasioned by excessive production. While full crops always tend to depress prices locally, if the surplus has ready market elsewhere the plethora is soon relieved and former prices restored. In 1891 farmers of the United States produced a larger crop by about 25 per cent than they had ever done before, but that crop was sold at prices better than those of a much lighter crop the preceding year. An unusual demand abroad relieved the glut here, not only maintaining prices but increasing them.

Taking our own country alone into the account, if prices of wheat are raised or lowered from year to year as our crop is light or heavy, we should have had lower prices in 1891 when our wheat crop was

611,780,000 bushels than we had in 1892 when the crop was 515,949,000, nearly a hundred millions less; and prices in 1893 ought to have been higher with a total production of 396,000,000 bushels, while in fact the average farm price was 53.8 cents a bushel. In fact, however, prices were higher in 1891 than in 1892, and lower in 1893 than in either of those years. In 1884 we raised 512,765,000 bushels, and the average price for that year was 65 cents; in 1891 the price was 30 per cent higher with a crop 25 per cent larger and we had increased our population at least 8,000,000 persons. In 1893 the price was still lower on a reduced yield.

As applied to our own country the overproduction theory does not hold good. Let us enlarge the view and take in the whole world. We have not been able to procure world estimates further back than 1884. For that length of time the figures are as follows:

The world's production of wheat.

Years.	Bushels.	Years.	Bushels.
1884	2,290,069.000	1890	2,170,123,000
1885	2,104,034,000	1891	2,238,362,000
1886	2,198,997,000	1892	2,253.860,000
1887	2,227,415.000		
1888	2,212,843,000	Average	2,197,912,000
1889	2,085,505,000		

The annual average wheat production of the world for nine consecutive years—from 1884 to 1892—as shown by these figures, was 2,192,138,600 bushels, and it appears that the product of 1884 was nearly 100,000,000 (exactly 92,157,000) larger than the average for the whole period, and 36,209,000 bushels larger than the crop of 1892, and, though the population of wheat-using countries had greatly increased in the meantime, the export wheat prices of this country were—for 1884, $1.07; for 1892, $1.03. From the figures in the table it appears that the average annual production for the first five years of the period was 2,066,671,600 bushels, and that the annual average for the last four years was 2,186,961,250 bushels—the average for the first five years being 19,710,350 bushels larger than the annual average for the last four years. The average annual export price of American wheat for the same periods was—from 1884 to 1887—92½ cents; from 1888 to 1892 it was 90½—2 cents lower on a less average production four years later, and with greatly increased population. It appears, then, that the over-production theory does not account for the decline in prices of American wheat.

AMERICAN WHEAT IN ENGLISH MARKETS.

The following table shows the average yearly prices of American wheat in English markets since 1870 to 1891. We have not the figures for 1892:

Year.	Price.	Year.	Price.	Year.	Price.
1871	$1.651	1878	$1.415	1885	$1.032
1872	1.740	1879	1.415	1886	1.032
1873	1.858	1880	1.504	1887	1.003
1874	1.681	1881	1.533	1888	1.091
1875	1.415	1882	1.430	1889	1.032
1876	1.415	1883	1.327	1890	1.047
1877	1.622	1884	1.076	1891	1.179

ENGLISH WHEAT IN ENGLISH MARKETS.

The following shows the yearly average price of English wheat in English markets in cents per bushel:

Year.	Cents.	Year.	Cents.	Year.	Cents.
1859	132⅞	1871	172⅛	1883	126¼
1860	161¾	1872	173⅛	1884	108⅝
1861	168	1873	178¼	1885	99¾
1862	168¼	1874	169⅛	1886	94⅞
1863	135⅞	1875	137¼	1887	98¼
1864	122	1876	140¼	1888	96⅛
1865	127	1877	172⅝	1889	90⅞
1866	151½	1878	141	1890	96⅛
1867	195⅝	1879	133⅛	1891	112⅛
1868	193⅝	1880	134⅝	1892	92¼
1869	156¼	1881	137¾		
1870	141¼	1882	136⅞		

DEALING IN OPTIONS AND FUTURES.

X

Farm prices of wheat are injuriously affected by the business commonly known as dealing in "options and futures." It is not our intention here to give details concerning the methods of this business. It is sufficient for our present purpose to consider the subject under three subdivisions.

First. Where a farmer or other person, having grain of his own, sells it for a price then agreed upon, with the understanding that it is to be delivered within or at a certain time in the future.

Second. Where a dealer, having no grain of his own, contracts a sale of grain to be delivered in future, expecting to purchase the grain in the market in time for delivery according to the terms of the contract, at a price agreed upon at the time of sale.

Third. Where two persons enter into a contract by which it is stipulated that one of them will deliver to the other, at a future time mentioned, a certain quantity of grain at a price named at the time of making the contract, reserving the option to deliver the wheat or not on condition that if any loss would come to the other by reason of failure or refusal to make delivery, he will make good the loss.

First—selling wheat actually in sight.—When one has an article to sell and does sell it to be delivered at a future time, he does what anyone may do without offense or injury. He simply arranges for the transfer of ownership in a particular piece of property. He neither enlarges nor diminishes the actual supply of that class of articles, and hence the transaction may have the widest publicity without affecting the market. A, B, C, D, and E, having each 1,000 bushels of wheat, in July, after threshing, may sell it all to F with the condition that it be delivered in September. The sale is published and the country learns that 5,000 bushels of wheat have changed ownership. The actual supply of wheat remains the same on the market reports and prices are not affected by the sale.

But if F, after having purchased only 5,000 bushels of wheat which he is to have delivered to him in September, makes a trade with G by which it appears in the market reports that he has sold 50,000 bushels of wheat to G, to be delivered in September, the country is given to understand that there is 45,000 bushels of wheat in existence more than there really is, and dealers will base their purchases on this inflated supply—offering less to the farmer for his wheat than they would have done if the apparent supply had not been increased by this transaction of F, suddenly throwing 45,000 bushels of (wind) wheat on the market.

Business men, buying and selling, always look to the state of the market before concluding new transactions, and the rule of their conduct, when normal conditions exist, is the rule of supply and demand. When demand is strong and supply short, prices advance; when supply is abundant and demand weak, prices recede. The stock actually in existence, no matter what the article may be, is always considered as a necessary factor in legitimate commerce. The prudent dealer in grain keeps himself posted as well as he can concerning the "visible supply." When that is apparently increased or diminished prices are affected accordingly. When the supply appears to be greatly increased, prices go down; when the supply appears to be short, prices go up.

It is often convenient for both parties to the contract that the delivery take place at a future time. The farmer may want to secure the contract so as to immediately avail himself of its benefits, and the other party may be quite as desirous to make sure of getting the grain, though he be not ready to receive it at the time of purchase. Nor is there any evil to come of the parties to such a contract transferring their rights under it to other persons, for that would not add to nor subtract from the supply of grain in existence, and it might be of direct advantage to both parties. To illustrate: Peter sells 100 bushels of wheat to Paul for $100, the wheat to be delivered on the first day of the third month after the day of sale, and he takes Paul's note for the amount of the purchase, at the same time giving his receipted bill of sale of the wheat with promise to deliver on the day named. Peter may deposit, transfer, assign, or sell the note and Paul may treat the bill of sale the same way. And this proceeding may be continued indefinitely by the new parties without injury to any and with benefit to all. No number of transfers could affect the supply of wheat, because both the bill of sale and the note refer to a particular quantity of wheat known to exist.

Second—Where the seller does not own the grain he sells.—This subdivision presents a different case. The particular wheat contracted for is not identified, though the market reports show a sale. It is not known that the person who is reported to have sold so much grain had no grain at all. This practice going on indefinitely has the effect of making the actual supply always appear larger than it is in fact. The logical result is a constant tendency toward a lower level of prices than would exist if future dealing were freed from its speculative attachment. The reasonable effect of such transactions is to appear to swell the quantity of grain actually on hand in that community to an extent equal to the amount reported in the sale. To make the proposition plain we will present a published fact: During the year 1892, on the New York Produce Exchange, 1,151,448,000 bushels of wheat were reported to have been sold, and the reports show that during the year 1893 the quantity of wheat sold at same place was 1,052,008,000 bushels. There was not half as much wheat grown in the United States in the two years named as is reported to have been sold at New York City. The exports of wheat during the year 1892 amounted to 157,280,351 bushels, an unusually large quantity, and most of that was purchased in the West. The quantity of wheat actually sold at New York during both years did not probably exceed 75,000,000 bushels—one bushel for every thirty bushels reported to have been sold Such excessive selling tends to confuse the public mind as to the quantity of wheat actually in the country for sale, and prudent dealers will always feel safest to operate on the theory of a large supply rather than a small one. This reacts on the farmer and he must face the inevitable depression caused by this over trading.

x It is true that no amount of speculating does or can create or destroy a bushel of wheat; but it is the speculative market that governs prices, and no man can know how much wheat is owned at any given time by a board of speculators, or how much actual wheat is included in the transactions of a given day or any number of days. It will not do to say that by multiplying transactions in actual wheat each contract may be fully carried out, as many debts are discharged by the use of one and the same piece of money, for wheat is not, like money, always in existence. Wheat is produced and sold and bought for consumption, for destruction if you please, while money is made to last forever, and in order to apply the money comparison to wheat trading in futures it would have to be conducted within certain limits, so that the quantity of wheat and the number of sales would, in the long run, balance each other. If it be urged that this does, in fact, take place, it is sufficient to answer, first, that it can not, in the nature of things, be true, for in this respect there has never been, nor can there ever be, any rule of action but that of the individual interest of the speculator as he himself sees his interest; that is the soul of speculation; and, second, that, if it were true, the fact remains that in the face of excessive trading no man can know what is the true figure of the actual supply; and to be safe every prudent dealer will buy on the presumption of an abundant reserve, which necessarily keeps prices lower than they would be if dealers sold only the wheat they owned at the time of sale. Prices determined by the real supply and demand, and not by the spurts of the "pit," rise and fall slowly and regularly; the highest or lowest mark is reached usually by slow and steady changes.

Another fact worthy of consideration in this connection is the standing temptation of every dealer who has to fill a "future" to interest himself in depressing the market so that he shall not be in danger of losing on the guess he made when he fixed the price of grain to fill the contract. If, on the day of delivery, the market price is less than his contract price he loses the difference. It is to his interest, therefore, to put off making the purchase as long as possible and, in the meantime, to keep the price low. x

A agrees to deliver wheat to B on a future day at the price of 90 cents a bushel. If he can purchase wheat enough at 85 cents to fill the contract, he gains 5 cents on each bushel. If he has to pay more than 90 cents for the wheat he loses the difference. It is for that reason that his interests lie in the direction of lower prices. He is a bear in that case, and his situation is that of every dealer who contracts at a certain price to deliver at a future time grain which he does not own. Every day of the interval he incurs risk of loss by a rise in prices; hence he wants low market until his contract is filled.

Third.—Option dealing where the seller is not obliged to deliver what he sells.—The third subdivision relates to that class of dealings in futures which includes the option to deliver or not to deliver an article named in the contract. It amounts to a wager on what will be the market price of the article at the time mentioned for the delivery to take place. Silas and Andrew agree that Silas will deliver to Andrew 100 bushels of wheat on the thirtieth day thereafter at $1 a bushel. When the time for delivery arrives, if the market price of wheat is $1 a bushel there is neither profit or loss to either party. If, however, the market price on the day named for the delivery is less than

$1, Andrew loses the difference and must pay it to Silas, who wins. If the price on that day be above $1, Silas loses the difference and he must pay it to Andrew, who wins. In either case, no wheat changes hands; that was not intended or expected by either party. What is done, however, is the payment of the loser to the winner of an amount of money equal to the difference between the price agreed upon and the market price on the day named for the delivery. The transaction is equivalent to a wager. Andrew says that on the thirtieth day thereafter wheat will be worth $1 or more a bushel, and Silas says it will not be that high. The wager is then won by Silas if the price does not reach $1 at the time named, and he loses if the price be beyond that figure.

It will not do to say that a sale and a purchase is bona fide involved in even such transaction, and that one is a set-off against the other, because, while it is impossible to add to or diminish the actual supply by selling and buying at random on the exchange, yet the very fact of reporting large sales for future delivery far above the actual supply on hand is evidence conclusive that all of them can not be made good, for there is not grain enough in existence to do it. But giving the suggestion all the force claimed for it, the fact remains that overtrading tends to create extravagant estimates of the supply, and that of itself depresses prices.

Take the case cited, where the wheat sales reported as having been made in New York City in the two years 1892 and 1893 amounted to 2,203,456,000 bushels, or at least 30 bushels for every 1 bushel that was actually sold, or that was on hand to be sold; an amount equal to more than twice as much as all the wheat grown in the country those two years, not more than one-thirtieth part of which could have been in New York for sale there. When prices are regulated by a market which appears to be very full they will tend downward.

POWER OF THE GRAIN DEALERS.

Among other agencies in weighting the farm market for wheat may be mentioned the organization of facilities for quickly and cheaply collecting grain at the great centers where it is stored. By far the larger part of the surplus wheat of the country finds its way to the city elevators soon after it is harvested. At Toledo, Chicago, Minneapolis, Kansas City, Topeka, and St. Louis the combined storage capacity is about equal to the average annual export of wheat. The buyers at those points have their men scattered all through the wheat-growing regions when the crop is being thrashed. These agents amount to a small army if they were brought together. They are energetic, shrewd business men, and are in direct communication with their principals at headquarters. Market prices are telegraphed them daily and sometimes oftener. Men dealing in millions can afford to play on fractions. These grain dealers are men of great wealth or have unlimited credit, which amounts to the same thing, and though they are often open competitors, they will lose or capture a deal on a sixteenth or an eighth of a cent a bushel, which seems a trifle to an average farmer, but a small margin when multiplied by a million increases wonderfully. One-tenth part of a cent on a bushel taken from a load of 50 bushels cuts the aggregate price down only 5 cents on the whole load, while on a million bushels a profit of one-tenth of a cent on each bushel would amount to $1,000.

The farmer once had control of his crops. He met the buyer at his home and contracted for as much wheat as he cared to sell at that time, provided the price offered suited him. He scattered his sales along through the year as he thought best. To some extent this good old custom still prevails among Eastern farmers. But generally throughout the West and Northwest most of the grain is sold as soon as it is thrashed, and the parties who purchase it reside at the railroad centers. The country is rapidly drained of wheat, and while the process is going on every dealer is interested in keeping the price at the lowest point. The farmer is powerless to prevent it. He is isolated, living apart from his neighbors, while the great agencies by which and through which his crops are moved and the prices fixed are thoroughly organized and beyond his influence or supervision. A penny from each of a thousand farmers is equal to $10 to the dealer who gets them all.

MERCHANT MILLING.

Men who engage in business enterprises do so because they expect to reap profits from them; and while millers claim that they prefer to buy wheat when prices rule high, and while that may be conceded, still they, like other dealers in wheat, are always found buying along the lowest and not the highest range of prices; and that is business. Millers will not pay more for wheat than other buyers pay, for that would soon leave them with a full stock on hand, and they being out of the market, prices would fall and flour would be affected accordingly. Millers are benefited by a high level of prices for wheat, provided the market is steady, for then flour commands a high price and the miller's margin of profit is larger. But all buyers find it to their interests to get what to them is the best price, which means the lowest price. Millers could not, even if they so desired, form an exception to this rule.

When men with large capital and with practically unlimited business facilities unite in establishing and conducting capacious milling establishments, collecting their supplies from over a wide region, purchasing them from a large number of individual farmers, their power over prices of wheat is very great.

At Topeka, Kans., there are 5 merchant mills, with an aggregate daily capacity of 2,600 barrels. That is equivalent to an annual output of 813,800 barrels a year if the mills were run on full time, more than half enough to supply all the people in the State. This flour is sold mostly in the South and East, a considerable proportion being exported to foreign countries.

In Kansas City, on the Kansas side of the State line, there are 8 grain elevators and on the Missouri side there are 13, with an aggregate storage capacity of 4,959,000 bushels. They have a receiving and discharging capacity of 1,230,000 bushels. A large quantity of grain is received at this place, but most of it is shipped East and South, a considerable proportion exported. There are 7 merchant mills, with an aggregate daily capacity of 4,000 barrels.

Minneapolis.—There are 21 merchant flouring mills at this place, with an aggregate capacity of 45,000 barrels daily. This is what the mills could turn out if they were run on full time with plenty of wheat on hand for steady running. There are 15 grain elevators at Minneapolis, with a capacity of 18,875,000 bushels. The quantity of wheat manufactured into flour by the millers is about 45,000,000 bushels annually, enough to feed a population of 10,000,000 persons. It is equal to nearly one-tenth part of an average wheat crop for the whole country.

The shipments of flour have ranged from 4,814,424 barrels from the crop of 1883, to 9,123,125 barrels from the crop of 1891. Exports of flour made at the Minneapolis mills were: In 1888, 2,197,615 barrels; in 1889, 1,953,815 barrels; in 1890, 2,097,025 barrels; 1891, 3,038,065 barrels; in 1892, 3,337,205 barrels. This is equal to nearly 25 per cent of the total flour exportation of the country during the same years.

Sixteen of the Minneapolis mills, with a reported maximum daily capacity of 41,550 barrels, are operated by 4 corporations. There are 6 private mills, reporting a daily capacity of 5,250 barrels.

The influence of such a power concentrated on one crop must be tremendous. The principle involved here is the same as that which operates in all great combinations of men and capital in particular enterprises. They are there to make money, and their profits come from two sources, purchases and sales. It is to their interest to buy low and sell high. Of course, they are affected to some extent by market rates, but they themselves have much to do in regulating the market. When they buy, they are bears; when they sell, they are bulls, and they are are in a situation to operate with great force.

LIVE STOCK.

Sheep.—The most noticeable feature in fluctuations in the sheep market during the years since 1868 is the great decline from 1883 to 1886. The average price of sheep throughout the United States during the year 1883 was $2.53 per head; the price fell to $2.37 in 1884, to $2.14 in 1885, to $1.91 in 1886, a fall of 62 cents a head in four years, a little more than 25 per cent. This decline may be attributed to falling prices of wool during the same period. Sheep have advanced since 1886 and at the end of 1892 the price was 13 cents per head higher than it was in 1868.

Horses.—Among general causes which have operated particularly in the horse market to depress prices has been, first, the general demand for finer stock; and second, less demand for draft horses, brought about by the introduction of different kinds of motive power in many departments of transportation where horses were used formerly. Within a comparatively short period steam and electricity have displaced a great many horses in street-car movement. It is but a few years since all surface street cars were drawn by horses, and the ordinary farm horse was as good as any for that purpose. The average life of a street-car horse is about three years. While the demand continued a great many horses were required annually for this class of work. Now, there is scarcely a town of considerable size in the country that has not displaced most of its horse cars with others propelled by mechanical power, and in some of the larger cities there is not a horse car running. Minneapolis, Minn., moves all her street cars by electrical power.

And the bicycle is displacing saddle horses rapidly. Young men in all the towns and cities are using this late invention in greatly increasing numbers every year. Nor is their use limited to young men. It is common to see men far beyond middle age moving about the streets on bicycles, and women in large numbers use them. This practice is spreading, and its influence on the horse market is already plainly perceptible.

Cattle.—Prices of cattle have been depressed more than any other class of live stock, and this has been occasioned largely by the abnormal development of the business of cattle-raising in Texas and the northwestern Territories, and by conditions that have grown out of that business. To appreciate the magnitude of the range and ranch cattle business, it is necessary to study its origin and history. Some interesting facts concerning its development were collected by Mr. Nimmo, statistician of the Treasury Department in 1885, and submitted by the Secretary of the Treasury to the House of Representatives in reply to a resolution of that body. It appears from that report that in 1860, and before that time, Texas cattle were slaughtered in immense numbers for their hides and tallow. Then the average value of three-year-old steers on the ranch or range was only from $3.50 to $4.50 a head. But with the construction of railroads, Kansas City, St. Louis and Chicago were soon opened to the Texas cattle trade. Those cities had become not only great cattle markets, but also great slaughtering and packing centers, from which live cattle, fresh beef, salted meats, and canned beef were shipped to various parts of the United States, and also exported to foreign countries. The construction of the Missouri, Kansas and Texas Railroad, the St. Louis, Iron Mountain and Southern Railroad, and the railroads extending west into the State of Kansas—more especially the Kansas branch of the Union Pacific Railroad and the Atchison, Topeka and Santa Fe Railroad—had been greatly promotive of the cattle interests of Texas.

About the same time began a movement of Texas cattle northward to the great ranges of Wyoming and Montana. It had been discovered that the native grasses of that region were nutritious and peculiarly suited to the growing of cattle. Young cattle were driven there in large numbers, and some were distributed through Indian Territory, New Mexico, and Colorado. It is estimated that the total number thus driven north, composed mainly of yearling and 2-year-old steers, since the beginning of the movement and up to 1885, amounted to about 3,000,000.

The opening of these new and enormous commercial possibilities to the cattle-owners of Texas developed a vast amount of wealth, and had, of course, greatly stimulated the cattle industry of that State. Cattle, which about the year 1868 were worth only $4.50 a head, advanced in value to $15 and $18 per head. The opportunities for gain and the wild fascination of the herdman's life had also drawn to Texas many young men of education and of fortune in the Northern States and in Europe. This had also been the case throughout the entire range and ranch cattle area of the United States.

Not only was Texas a great breeding ground for cattle, but vast herds were also matured and shipped direct to market from that State. The northern and northwestern portions of the State were well adapted to the maturing of cattle. It was estimated that during the year 1884 about 300,000 cattle were driven from Texas to northern ranges, to be there matured for marketing, and that about 625,000 beef cattle were shipped from Texas direct to the markets of Kansas City, St. Louis, Chicago, and New Orleans.

The Western and Northwestern range and ranch cattle area of the United States embraced the principal part of the Indian Territory, the western portions of Kansas, Nebraska, and Dakota, the Territories of Montana, Idaho, Wyoming, Utah, Arizona, and New Mexico, the States of Colorado and Nevada, and portions of California, Oregon, and Washington Territory, and this vast area, embracing 1,159,907 square miles, or 742,340,480 acres, was largely devoted to the cattle business.

For some time it was believed that Texas must continue to be the principal breeding ground, and that the Northern ranges would be the maturing and fattening ground for Texas cattle. But that belief was soon found to have been not well founded. Having learned the value of the native grasses, an important change took place in the cattle business of the plains. These grasses derive moisture mainly from the melting snows of winter and from the rainfall of the spring months. During the summer months they are cured by the dryness of the air, thus retaining their nutritious qualities through the succeeding autumn, winter, and spring months. When these supplies are temporarily cut off by snow falls the cattle resort to the white sagebrush and the black sagebrush, which, though not very nutritious, supply the cravings of hunger until the melting of the snows. It had been found also in Wyoming and elsewhere that the alfalfa or lucerne could be cultivated to great advantage wherever irrigation was practicable.

These discoveries stimulated the business in two directions. It brought about a movement of young steers from Texas to be matured on the Northern ranges, and also a movement of breeding animals from the States east and from Europe. Hon. Morton E. Post, delegate from Wyoming, made the following statement in regard to this matter:

> The cattlemen of Wyoming realized at an early day the importance of improving the breed of their animals, and accordingly began as early as 1874 or 1875 to import graded and thoroughbred bulls. The result is that the general average of the range cattle of Wyoming to-day is improved stock, having large frames and small bones. They are well-developed animals, furnishing a superior quality of beef. We have done more in Wyoming toward improving the breed of cattle than has been done in any other section of the range-cattle area. Our cattle to-day are of a very high standard, and we have increased the value of our herds materially by systematic breeding. The success already attained is stimulating the cattlemen of Wyoming to still further efforts in the direction of improving the breed of their stock. The example of Wyoming is being followed very extensively throughout the range-cattle area.
>
> Our stockmen during the last few years have been doing their very best to get the best breeds, the highest class of bulls which they can procure. The cattle breeders of Wyoming have imported bulls quite largely from Europe. The very best specimens of the fine breeds have been procured. The importations from England have been principally Herefords. Durham bulls have been imported mostly from the States of Kentucky, Illinois, and other States of this country. The number of cows and heifers brought into Wyoming has been much less than that of bulls. The range-cattle business of Wyoming began along from 1868 to 1870. From that time to about 1876 or 1878 the great bulk of the cattle were brought from Texas. About three-fourths of the entire stock were steers, and the rest cows and heifers. After that the rangemen imported largely from Nevada and Oregon and the Territories of Montana, Idaho, and Utah, and also some from Colorado—mixed herds of cattle. The cattle imported from Utah, Nevada, Oregon, Idaho, and Montana were a good class of cattle, being composed mainly of improved natives and largely also of improved Texas stock.

For many years the range-cattle business was carried on chiefly on the public lands where no rental was charged or paid and where feed cost nothing. The business grew rapidly, the cattle increasing in numbers at a high rate per cent, and with the introduction of better blood the forms of the animals were changed for the better, and the quality of the meat was correspondingly improved. At first there were a good many different herds on the plains belonging to different owners, but this, too, was changed. Great companies were organized with capital amounting to millions of dollars. The Wyoming Stockgrowers' Association started out in 1873 with 10 members representing an ownership of 20,000 cattle, worth about $350,000, and in 1884 it had grown to a membership of 435, representing an ownership of 2,000,000 head of cattle, valued at $100,000,000.

Describing this great company, Mr. Post, above quoted, said in 1885:

> The Wyoming Stock Association is one of the best organized and most effective in its workings of any stock association in the United States.
>
> It is controlled by stockmen for their mutual benefit. They have detectives and inspectors stationed at such points as may be necessary to look after stray cattle and cattle being shipped or driven out of the country with brands belonging to any member of the association. They arrange for the spring "round-ups," so as to work in

harmony, and have each man's interest looked after, and to see that each owner furnishes his proportion both of cowboys and supplies. These "round-ups" are under the control of captains or officers appointed under the association, and have entire charge. In case of a dispute as to the different brands, instead of having recourse to law, such matters are referred to a disinterested party as arbitrator, and his decision is usually accepted as final.

In regard to the inspection system, it has proven very beneficial, as cattle sometimes stray some distance from the ranges. The inspectors are stationed at Omaha, Kansas City, and other points where cattle are shipped through by rail. When a train of cattle arrives at any one of these points the inspector looks through the cattle, and, if he finds cattle whose brand indicates that they belong to a member of the Wyoming Stock Association other than the shipper, such cattle are consigned to some commission merchant in Chicago for sale and the proceeds are remitted to the association, and by it handed over to the proper owners.

The stock-growers' association of the States of Colorado and of Nebraska and Dakota work in harmony with the Wyoming association. The detectives of the associations look after cattle thieves and men guilty of altering brands, etc.

The cattle business up to the present time has been the great business of Wyoming. The laws of the Territory have been framed specially with the view of protecting this interest.

The number of cattle on the ranges east of the Rocky Mountains and north of New Mexico and Texas in 1884 was estimated to be 7,500,000 head, valued at $187,500,000.

The following table shows the estimated number and value of cattle in the United States, in Texas, and on the northern ranges in 1884:

	Number.	Value.
The United States	49,417,782	$1,180,577,000
The State of Texas	9,000,000	153,000,000
The range and ranch cattle area north of Texas	7,500,000	187,500,000

According to these figures the number of cattle in Texas and on the northern ranges constituted about 28 per cent of the total value of all the cattle in the United States at that time, and the value of those on the northern ranges amounted to about 16 per cent of the total value for the whole country. It is not pretended that this table is altogether accurate, but it is approximately so. From the best data which Mr. Nimmo was able to procure in 1885 it appeared that the total number of beef cattle marketed in 1884, outside of Texas, and mainly at New Orleans, Chicago, St. Louis, and Kansas City, was about 625,000, realizing on the average about $25 per head, or a total sum of $15,625,000.

The number of northern range cattle marketed at Chicago, St. Louis, and Kansas City, making proper allowance for duplication, was about 400,000, and their average value about $40 per head.

The number of beef cattle shipped from Texas and from the northern ranges during the year 1884, and their value at shipping points, was, therefore, according to the best available data, as follows:

	Number.	Average value.	Total value.
From Texas	625,000	$25	$15,625,000
From the northern ranges	400,000	40	16,000,000
Total	1,025,000		31,625,000

The range cattle business reached its highest level about the year 1885. As a rule the business yielded very large profits. There were exceptions, of course. All localities were not equally favorable to the success of the business. This was due chiefly to differences of conditions as to water supply, the quantity and quality of grasses, shelter, the number of calves produced, extent of winter losses, and the management of herds. But as a whole the business was very profitable. Large fortunes were made at the business within a comparatively brief period. Hundreds of men who embarked in the business with exceedingly limited means ranked as "cattle kings."

The average cost of raising a steer on the ranges, not including interest on the capital invested, was usually estimated by the large stock-owners at from 75 cents to $1.25 a year. Thus a steer four years old ready for market had cost the owner $4 or $5 to raise. When driven to the railroad he was worth from $25 to $45.

The following table shows the monthly and the monthly average receipts by the year of cattle at Chicago since 1878, from which it will be seen that there was a steady gain from a monthly average of 82,000 in 1878 to a monthly average of 290,000, or 3½ times as much, in 1890. There was a slight falling off in 1891, but it was made up in 1892, when the total receipts for the year were 2,571,796 head, a monthly average of 297,649 head.

Monthly receipts of cattle at Chicago, in thousands.

Years.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly Av.
1878 ..	79,000	82,000	80,000	92,000	97,000	81,000	96,000	84,000	96,000	111,000	88,000	94,000	82,000
1879 ..	86,000	94,000	80,000	96,000	103,000	93,000	123,000	103,000	120,000	120,000	96,000	99,000	99,000
1880 ..	102,000	87,000	117,000	114,000	112,000	121,000	120,000	113,000	126,000	127,000	133,000	109,000	115,000
1881 ..	110,000	107,000	102,000	120,000	122,000	120,000	131,000	142,000	145,000	151,000	137,000	106,000	124,000
1882 ..	129,000	110,000	126,000	101,000	100,000	110,000	129,000	141,000	166,000	175,000	167,000	126,000	131,000
1883 ..	165,000	118,000	142,000	117,000	134,000	141,000	153,000	184,000	172,000	218,000	167,000	165,000	156,000
1884 ..	165,000	135,000	122,000	139,000	124,000	127,000	161,000	143,000	168,000	199,000	175,000	158,000	151,000
1885 ..	171,000	127,000	131,000	150,000	150,000	156,000	158,000	176,000	171,000	191,000	151,000	169,000	158,000
1886 ..	168,000	127,000	143,000	143,000	138,000	154,000	174,000	197,000	198,000	187,000	162,000	170,000	163,000
1887 ..	186,000	156,000	166,000	139,000	182,000	206,000	196,000	250,000	218,000	232,000	227,000	220,000	198,000
1888 ..	224,000	166,000	182,000	182,000	205,000	202,000	206,000	232,000	260,000	281,090	260,000	212,000	218,000
1889 ..	233,000	208,000	192,000	223,000	248,000	231,000	272,000	297,000	276,000	331,000	261,000	250,000	252,000
1890 ..	283,000	233,000	247,000	260,000	299,000	234,000	328,000	294,000	333,000	382,000	264,000	278,000	290,000
1891 ..	274,000	223,000	243,000	202,000	221,000	236,000	289,000	261,000	358,000	372,000	290,000	281,000	271,000
Mthly Av.	169,000	140,000	148,000	149,000	161,000	160,000	181,000	187,000	200,000	219,000	183,000	174,000	172,000

Increase in numbers and improvement in breeds of range cattle produced on public lands at nominal cost seriously interfered with the raising and marketing of high-grade and first-class beef on improved lands, where a 3-year-old fat steer cost anywhere from $35 to $60, according to location and value of land and feed. The range cattle business reached its best estate in 1884–'85. Here are figures showing—

Highest prices paid for fancy cattle at Chicago for ten years.

Months.	1891.	1890.	1889.	1888.	1887.	1886.	1885.	1884.	1883.	1882.
January	$5.55	$5.25	$5.40	$5.85	$5.50	$6.12½	$6.80	$7.15	$6.50	$7.00
February	5.60	5.30	5.00	5.65	5.50	6.25	6.50	7.30	7.00	7.15
March	6.35	5.25	4.85	5.70	5.65	6.50	6.10	7.25	7.30	7.65
April	6.40	5.35	4.75	5.30	5.50	6,35	6.05	6.85	7.10	8.00
May	6,50	5.40	4.60	5.30	5.15	6.10	6.00	7.00	6.75	9.00
June	6.35	5.30	4.70	7.00	5.15	6.00	6.25	7.25	6.30	9.30
July	6.40	5.10	4.55	6.25	4.75	5.60	6.20	7.12½	6.40	8.25
August	6.25	5.50	5.00	6.50	5.50	5.25	6.25	7.35	6.55	8.00
September	6.40	5.37½	4.80	6.85	5.40	5.50	6.25	7.60	6.50	7.75
October	6.60	5.85	5.15	6.50	5.40	5.60	6.25	7.30	7.35	6.85
November	6.40	5.25	5.50	6.15	5.75	5.45	6.00	6.90	7.35	6.70
December	7.15	6.40	6.10	7.00	6.50	6.50	6.80	8.00	8.25	7.00

Highest in fourteen years, June, 1882, $9.30.

Since 1885 the range cattle business has not been as profitable as it was before, but its decline has been slow until within three or four years past. Its influence on the cattle trade of the country maintained an even level about five years—from 1884 to 1889—since which time its influence has not been so much felt.

At the request of the chairman of this subcommittee, Mr. R. M. Allen, now of Ames, Nebraska, a very competent person, prepared a paper on the general subject of the range and ranch cattle business. Mr. Allen is an extensive cattle-raiser, and was some years engaged in the ranch business in Wyoming. He is now raising cattle on a 6,000-acre farm in the Platte Valley in Nebraska. His article is printed in the appendix to this report.

PACKING HOUSES.

While the cattle business in Texas and the West and Northwest was growing, great packing houses at the points of collection and distribution were developing in corresponding proportion. This had the effect to diminish the number of buyers and to greatly augment their influence and power. Under the old régime small butchers bid against their more wealthy rivals, and competition was active without cutting down to the cost line. The extent to which the packing business has grown is wonderful and the power of the packers is enormous. The establishment of Armour & Co., at Chicago, claims to have done a distributive business during the year 1892, amounting to $75,000,000—distributive sales of its products. The house slaughtered 1,750,000 hogs; 850,000 cattle; 600,000 sheep. The company reports that 8,000 hands were employed, to whom $8,000,000 in wages were paid. The ground covered by this immense establishment is 55 acres; the floor space is equal to 145 acres, and the chill room and cold storage area is 40 acres. The cold-storage capacity is 150,000 tons, enough to load 75,000 2-horse wagons with two tons each. It would load 7,500 railway cars with 20 tons each, and these, if divided into trains of 20 cars each, would make 375 trains. If they were massed in one train, allowing 25 feet space to each car, they would make a train nearly 36 miles long.

Packers claim that by means of improved processes for utilizing what was formerly wasted under the old methods of butchering they are enabled to clear a profit in their business even though they gain nothing on the carcass. In other words, enough is made out of the "by-products" to show a profit on the entire business. Mr. Edward Martyn, representing Armour & Co., in the statement which he filed with the subcommittee, sets out in detail the uses to which the various parts of the animal other than the flesh are put:

> In the cattle business, after the dressed carcass has been delivered to the retail dealer and the hide to the tanner, the slaughterer has the following products, which were formerly almost all waste, to utilize and dispose of: The caul fats, which formerly went into the cheap product of tallow, are now utilized for the manufacture of oleomargarine oil, the primary component of oleomargarine. * * * The common fats, which are unfit for this purpose, are rendered into tallow. The tongue, liver, and heart are sold to the marketmen separately, unless the liver and heart are utilized in making sausages. The intestines are cleaned and utilized in covering bologna and other sausages. The bladders and weasands are used to pack snuff and putty in. From the stomach we make our plain and honeycomb tripe. The ox gall is used by printers and painters. The horns, shin bones, and blade bones are utilized for knife handles and bone buttons, and for other like purposes. The heads and small bones, the knuckles, cattle feet, sinews, pizzles, bones from extract department, hoofs, hide trimmings, and calves' feet are utilized in the glue department to be manufactured into glues and fertilizers. The blood is collected and dried, and all the offal which can not otherwise be utilized is made into fertilizers.

An establishment doing such an amount of business of this character can afford to compete with other like concerns with very small margins on units. The total number of animals slaughtered by this company alone the last year reported (1892) was 3,200,000. One cent profit on each animal would amount to $32,000, which is equal to 4 per cent on a capital of $800,000. If the whole business can be carried on successfully on the profits on by-products alone, this $32,000 would be that much over and above a fair profit on the whole. While it is not pretended that cattle are not purchased with a view to profit on the carcasses as well as on the separate parts, the fact that this can be done without sustaining loss shows how closely prices for live animals may run along the cost line without injuring the packing business. And while competition, when it is open and fair, tends to keep prices up, that is only when the market is not fully supplied. When buyers go into a full market, and especially when it is overfull, crowded, glutted, they can safely bear the market without opposition, for there is plenty for all.

A fat ox, as soon as it is ready for market, becomes expensive property. Every bushel of corn fed to him after that is a bushel of corn lost. And when fat cattle are once on the market—in the car or stock pen—every day of delay in sale is attended with additional expense. So, if the farmer, having his steers in the stock yards at Kansas City or Chicago, thinks he ought to have $75 a head for them, in order to pay him what it has cost him to put the animals there, if the price offered to-day does not suit him, a lower bid to-morrow with an equally full market is suggestive, and a few days of such experience has the effect to make him anxious to sell at whatever the bid may be the next day. Such cattle being wanted only for slaughter, and the packers having control of the beef business, a full market gives them abundant opportunity to supply themselves at their own prices, and this without maintaining a combination for that purpose. Under such conditions the farmer can not help himself. Prices declined in spite of his efforts to prevent it. Cheap cattle of the ranges fed the market to fullness and kept it there.

The company of which Mr. G. F. Swift is the head slaughtered, in 1892, of cattle, 1,189,498; of hogs, 1,134,692; of sheep, 1,013,527. Armour & Co., the same year, slaughtered over 3,000,000 head of animals, and Morris killed 646,026 head of cattle. These three firms killed more than two-thirds of all the cattle, one-third of all the hogs, and about one-half of all the sheep that were brought to Chicago during the year.

It is impossible to estimate the power which such great concerns have and exercise over the market prices of articles in which they deal. Mr. Swift says their sales of packing-house products during the year 1892 amounted to $90,000,000, and Armour's amounted to $75,000,000. Two such houses in full markets without any combination between them are able to handle the market to suit themselves. If they could not do so they could not afford to carry on such immense business. The larger the business the greater the influence over the prices of materials purchased for use in the business.

The influence of such large establishments extends all over the region from whence they draw their supplies. Here is a list of the States from which Chicago receives her supplies of live stock: Ohio, Michigan, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Missouri, Kansas, Nebraska, Nevada, Colorado, Arizona, New Mexico, Texas, North Dakota, South Dakota, Idaho, Montana Wyoming—nearly half the States of the Union.

The packing houses of Chicago, Omaha, Kansas City, St. Louis, Indianapolis, and Cincinnati drain all the region west of the Alleghany Mountains of its surplus live stock. It is safe to say that these houses constitute the entire list of bidders who could have any influence on prices.

These great packing establishments are object lessons which farmers may study with advantage; not because they receive any pecuniary benefits from the existence of such establishments, but because they will learn from the study how greatly the efficiency of labor is augmented by being massed and operating under a single management, how wonderfully the effect of money is magnified when used in large amounts in one enterprise, and how vastly the influence and consequent power of one man is increased by giving him control of men, money, and business.

The chairman of the subcommittee visited the grounds of the Armour packing establishment and examined the methods of operation and the manner of doing business. As before stated, the buildings occupy a ground space equal to 55 acres, and as some of them are three or more stories high, the floor area is equal to 145 acres. The floor area contained in the cold storage room amounts to 40 acres. The plans, machinery, and devices for handling everything about the premises work with the perfection of mechanism. The grounds and buildings are lighted by electric lamps. The local transportation is done on a 3-foot gauge electric railroad about 3 miles in length. This railway connects the warehouses and slaughtering houses, and is so laid out that the entire product of the establishment can be readily moved from one point to another at the minimun of expense and labor. Five hundred thousand pounds of product can be easily handled daily on this road with a force of 10 men, where previously 200 men were kept wheeling trucks all day to move the same quantity.

For moving barrels an endless chain arrangement with gripping attachments is provided. The chain is something more than half a mile in total length. A stream of barrels is kept moving from the pork-packing floor up two stories and along almost the entire length of one large warehouse, across a bridge to the opposite side of the tracks, and then on to the loading platform and into another warehouse. Formerly this work was done by hand, a man to each barrel. Now a barrel is rolled into the mouth of the groove in which the chain moves and the chain does all the rest. When cattle are to be slaughtered they are driven into narrow passage ways beside the pens, each compartment being only large enough to hold two animals. The cattle are killed by the stroke of a large hammer; death is immediate. Directly opposite the steers as they fall is a sliding door which is lifted, the floor is raised behind, and they are rolled out on the floor of the beef house, when they are immediately suspended by a chain quickly put around the hind legs and pulled up by machinery, when a gang of men begin work on each animal. The head is cut off and the tongue removed by one man, the feet stripped by the next, the entrails are removed by another, the hide stripped off by one, and a general finishing touch given by another. After dressing, washing, and weighing the carcass it is slid down to the chill room, a spot large enough to hold 15,000 beef carcasses, and it is kept constantly at a temperature near the freezing point. There are about 1,200 men employed in the beef house, and its daily capacity is 5,000 head, equal to an average of 8⅓ steers every minute for a day of ten hours. The entrails are separated, cleaned, and cured, being chiefly for sausage skins. The tongues go to the canning department; the shanks and heads, after being trimmed, are transferred to the glue works; the hides are taken to the cellars underneath, where they are packed in layers of salt to cure, and the general offal directed towards the fertilizer department.

The livers and hearts are shipped with the dressed carcasses to supply the Eastern demand. The bladders are dried and sold; the stomach makes tripe. The tallow is saved and refined, and the sweet fat is transported to the oleo factory to be transformed into oleo oil, and subsequently into butterine. The horns are sold to comb makers, and the shin bones to knife-handle and knitting-needle manufacturers. Neat's foot oil is made from the feet. Phosphate is produced from some of the bones, and the ox tail is the basis of the soup of that name. The switches, or tail ends, find a ready market with hair-mattress manufacturers. The company have taken steps looking to the establishment of tanneries connected with their business.

When hogs are to be killed they are driven from the yards up elevated roadways into pens adjoining the slaughterhouse, and after a sufficient delay to permit them to cool off, they are driven into the building 100 or 200 at a time. Running directly over the slaughter basin are rails with wheel and pivot attachments. Boys pass a chain over one hind leg of each animal. The chain is quickly wound up and the hog lifted completely off the floor. The rail on which the pivot wheel rests is on an inclined plain, and in a moment the hog is brought right in front of the sticker. The blood drains off into a reservoir below, to be afterwards dried, pulverized, and used for fertilizing.

The hog is then brought over an immense vat of boiling water, into which it is plunged, left there a few moments, and then, by means of a gate connected by revolving pivots at the sides, swung onto a table. Passing through the center of the table is an endless chain, with hooks attached, one of which is fastened into the nose of the hog, and by this means the animal is carried along through the scraping machine.

This machine is made of steel blades, mounted on inverted cylinders, and so constructed that contact is easily made with every portion of the body as it passes through. In less than ten seconds the hog is clean. The bristles are saved and sold to brush makers; the hair falls into a receptacle on the floor beneath and is dried, cleaned, and sold to curled-hair manufacturers. The hog is thoroughly washed by a strong stream of water from a hose. The gambrels are then cut and the hog is once more suspended.

The carcass is cut, cooled, and salted. The various parts are utilized by means similar to those employed in disposing of beeves. Sixteen hogs are thus disposed of every minute. The storage capacity of the pork cellars is about 25,000,000 pounds. This is equivalent to the dressed meat of 125,000 hogs averaging 250 pounds, live weight.

In connection with the lard-refining business of this company they bring to their factory large quantities of lard in its first and unrefined state from small packers in the West, and transfer it to their refinery to be relieved of coarseness and impurity. In the transportation of this crude lard to Chicago they employ a line of tank cars, thus saving largely the expense of cooperage and labor incurred under the old method. The lard is pumped into the tank cars and pumped out of them, reducing labor to the minimum.

In the sausage room a large force of hands is employed in chopping meat for sausage and mince pies and stuffing all varieties of sausages. In the canned meat department they put up not only beef in cans, but likewise a great variety of other viands, such as ox tongues, lunch tongues, canned soups, potted ham, potted tongue, roast beef, brawn, compressed ham, canned tripe, canned pigs' feet, chipped dried beef, Oxford sausage, strips of breakfast bacon, etc.

Connected with this department is a tin shop, in which it is reported 25,000,000 tin cans of various patterns and sizes were made during the year 1892 for use in the canned goods put up here.

The glue works are located on the Chicago River, about 2 miles from the stock yards. They cover a ground space of 18 acres, employ about 800 hands, and in 1892 turned out 12,000,000 pounds of glue and 12,000 tons of fertilizer.

There are many details that would add to the interest of the description, but our object is only to direct attention to the vast amount of work done in one of these great establishments at the lowest cost and the least expenditure of human labor. So large are their purchases that the company can make immense profits on animals that do not net owners the cost of their raising and feeding, and the packing goes on in summer as well as in winter. A butcher whose sales do not require more than one carcass a day must have $5 off that single animal, or he does not make money; but a packer who uses a thousand carcasses a day, and makes a good profit out of the by-products alone, can afford to underbid the little man on the market for live cattle, because he can dress the beef in a big packing house and ship it to the local butcher's customers cheaper than he can prepare it himself.

During the year 1892 Nelson Morris killed 646,026 head of beef cattle and shipped dressed beef carcasses to a few of the principal cities as follows:

Shipped for consumption to—	Head.
Boston	10,608
Brooklyn	22,877
Philadelphia	22,421
Washington	9,383
New York	10,894
Baltimore	16,104

Mr. Swift's Chicago plant occupies a ground area equal to 40 acres, and he has branch houses in Omaha, Kansas City, and St. Louis. His company uses nearly 3,000 railway cars in their business, and pay out about $3,750,000 for domestic transportation, and nearly one-third as much for ocean and foreign freights. A refrigerator car costs about $1,000.

The extent of the local meat live-stock trade of Chicago is seen by comparing the figures in the two tables following. The first table shows the total receipts; the second shows the shipments; the difference shows the local consumption.

Total receipts of stock for twenty-seven years.

	Cattle.	Calves.	Hogs.	Sheep.
1865, 5 days	613	....	17,764	1,433
1866	393,007	....	961,746	207,987
1867	329,188	....	1,896,738	180,888
1868	324,524	....	1,706,782	270,891
1869	403,102	....	1,661,869	340,072
1870	532,964	....	1,293,158	349,853
1871	543,050	....	2,380,083	315,053
1872	684,075	....	3,252,623	310,211
1873	761,428	....	4,437,750	291,734
1874	843,966	....	4,258,379	333,655
1875	920,843	....	3,912,110	418,948
1876	1,096,745	....	4,190,006	364,095
1877	1,033,151	....	4,025,970	310,240
1878	1,083,068	....	6,339,654	310,420
1879	1,215,732	....	6,448,330	325,119
1880	1,382,477	....	7,059,355	335,810
1881	1,498,550	48,948	6,474,844	493,624
1882	1,582,530	24,965	5,817,504	628,887
1883	1,878,944	30,223	5,640,625	749,917
1884	1,817,697	52,353	5,351,967	801,630
1885	1,905,518	58,500	6,937,535	1,003,598
1886	1,963,900	51,290	6,718,761	1,008,790
1887	2,382,008	65,859	5,470,852	1,360,862
1888	2,611,543	96,086	4,921,712	1,515,014
1889	3,023,281	122,968	5,998,526	1,832,469
1890	3,484,280	175,025	7,663,829	2,182,667
1891	3,250,359	205,383	8,600,805	2,153,537
1892	3,571,796	197,576	7,714,435	2,145,079
Total	40,518,336	1,129,176	131,353,711	20,542,483

Total shipments of stock for twenty-seven years.

Year.	Cattle.	Calves.	Hogs.	Sheep.
1866	263,693	....	482,875	75,447
1867	203,580	....	758,789	50,275
1868	215,987	....	1,020,329	81,634
1869	294,717	....	1,086,305	108,690
1870	391,709	....	924,453	116,611
1871	401,927	....	1,162,286	135,084
1872	510,025	....	1,835,594	145,016
1873	574,181	....	2,197,557	115,235
1874	622,929	....	2,330,361	180,555
1875	696,534	....	1,582,643	243,604
1876	797,724	....	1,131,635	195,925
1877	703,402	....	951,221	155,354
1878	699,108	....	1,266,906	156,727
1879	726,903	....	1,692,361	159,266
1880	886,614	....	1,394,990	156,510
1881	938,712	33,465	1,289,679	253,938
1882	921,009	10,229	1,747,722	314,200
1883	966,758	12,671	1,319,392	374,463
1884	791,884	31,089	1,392,615	290,352
1885	744,093	33,610	1,797,446	260,277
1886	704,675	18,657	2,090,784	266,912
1887	791,483	15,956	1,812,001	445,094
1888	968,385	23,663	1,751,829	601,241
1889	1,259,971	35,576	1,786,659	711,315
1890	1,260,309	61,466	1,985,700	929,854
1891	1,066,264	48,331	2,962,514	688,205
1892	1,121,675	31,004	2,926,145	483,368
Total	19,524,251	355,717	42,680,791	7,695,252

KANSAS CITY.

The packing trade of Kansas City is enormous. The tables presented to the committee by Mr. E. E. Richardson, secretary of the Kansas City Stock Yards Company, show in detail how many animals are bought by the packers at that place. By way of showing the aggregate local trade for a series of years, we submit the following tables, showing total receipts and total shipments by rail, the difference being the numbers of animals annually "driven out" to supply the home markets for live animals:

Total yearly receipts.

Year.	Cattle.	Calves.	Hogs.	Sheep.
1871	120,827	....	41,036	4,527
1872	236,802	....	104,639	6,071
1873	227,689	....	221,815	5,975
1874	207,080	....	212,532	8,855
1875	174,754	....	63,350	25,327
1876	183,378	....	153,777	55,045
1877	215,768	....	192,645	42,190
1878	175,344	....	427,777	36,700
1879	211,415	....	588,908	61,684
1880	244,709	....	676,477	50,611
1881	285,863	....	1,014,304	79,924
1882	439,671	....	963,036	80,724
1883	460,780	....	1,379,401	119,665
1884	533,526	....	1,723,586	237,964
1885	506,627	....	2,358,718	221,801
1886	490,971	....	2,264,484	172,659
1887	669,224	....	2,423,262	209,956
1888	1,056,086	....	2,008,984	351,050
1889	1,220,343	....	2,073,910	370,772
1890	1,472,229	76,568	2,865,171	535,866
1891	1,270,917	76,570	2,599,109	386,760
1892	1,479,078	92,077	2,397,477	438,268
Total	11,883,081	245,215	26,754,398	3,502,397

Yearly shipments by railroads.

Year.	Cattle.	Calves.	Hogs.	Sheep.
1871	100,481	....	1,897	3,883
1872	106,467	....	8,593	5,411
1873	182,245	....	33,610	4,288
1874	166,519	....	114,569	6,976
1875	126,262	....	15,790	17,742
1876	120,340	....	26,264	22,460
1877	126,570	....	15,973	28,329
1878	131,761	....	91,671	30,483
1879	155,831	....	208,851	47,782
1880	194,421	....	152,920	36,285
1881	223,989	....	195,524	61,078
1882	359,012	....	191,325	52,652
1883	387,598	....	313,879	61,977
1884	443,001	....	590,133	105,973
1885	402,381	....	801,162	115,755
1886	370,350	....	538,005	83,234
1887	483,372	....	524,492	103,126
1888	682,622	....	413,937	169,932
1889	744,510	....	331,434	174,851
1890	923,552	55,861	558,227	336,207
1891	739,093	38,975	605,457	178,271
1892	810,016	40,900	591,623	219,230
Total	8,071,393	135,726	6,324,836	1,865,927

Total driven out of yards yearly.

Year.	Cattle.	Calves.	Hogs.	Sheep.
1871	20,313	....	38,705	644
1872	30,332	....	95.806	660
1873	45,421	....	186,964	1,663
1874	40,550	....	98.145	1,901
1875	47,949	....	47.306	7,568
1876	62,916	....	126.916	32,369
1877	89.201	....	177,231	14,004
1878	43,788	....	334.684	6,529
1879	55.530	....	380,943	13,375
1880	49,860	....	523,928	14,719
1881	62,145	....	819.923	18,770
1882	80,509	....	770,581	28,056
1883	73.000	....	1,065.126	57.201
1884	90,991	....	1,134,154	131,241
1885	101.196	....	1,557.865	107,333
1886	120.556	....	1,726.318	89,163
1887	185.690	....	1,899,054	106,365
1888	372.925	....	1,595,313	181,864
1889	474,885	....	1,741,880	195,027
1890	549,301	20,862	2,305,127	199,000
1891	533,156	37,605	1,995,652	209,641
1892	676,725	51.256	1,805,114	218,909
Total	3,809,939	109,723	20,426,735	1,366,002

The packing business of Kansas City has grown from 80,509 cattle, 770,581 hogs, and 28,056 sheep in 1882 to 676,725 cattle, 1,805,114 hogs, and 218,909 sheep in 1892. This is an increase of 740 per cent in the number of cattle, 134 per cent in hogs, and 700 per cent in sheep in ten years.

OMAHA.

The Omaha business is shown in the following table and summary taken from the figures submitted by Mr. William N. Babcock, general manager of the Union Stock Yards Company at South Omaha:

Amount of live stock received at the yards since their establishment.

Years.	Cattle.	Hogs.	Sheep.	Horses.
1884	86,898	1,863	4,188	466
1885	114,163	130,867	18,985	1,959
1886	144,457	390,187	40,195	3,028
1887	235,723	1,011,706	76,014	3,202
1888	340,469	1,283,600	158,503	5,035
1889	476,340	1,206,605	159,053	7,595
1890	606,699	1,673,314	170,849	8,592
1892	738,186	1,705.687	185,457	14,183
Total	3,326,979	8,866,552	969,430	49,378

About 65 per cent of the cattle received during the last nine years have been slaughtered by local packers, the rest having been shipped to feed lots in Nebraska, Iowa, Missouri, Kansas, Illinois, Kentucky, and Indiana, to be fattened; and to eastern packing centers, including Illinois, New York, Massachusetts, Pennsylvania, Ohio, and New Jersey.

About 80 per cent of the hogs received at these yards have been slaughtered by local packers, the others having been purchased by outside packers for shipment to New York, New Jersey, Connecticut, Massachusetts, Ohio, Indiana, and the Republic of Mexico.

Without pretending to cover the whole country, enough has been presented to show that the magnitude of the meat-packing business is very great. The sales of Armour and Swift alone during the year 1892 amounted to upwards of $165,000,000, and their goods are shipped to all parts of the world. Their combined export trade is about $15,000,000 a year. Branch houses are opened in many of the large towns of the country, and "beef houses" are opened in many small ones. Twenty-five per cent of the home business is done through these branch offices, which are all in charge of salaried agents. No local butcher can compete with the beef houses. This practically destroys the local market for fat stock. The farmer must send his animals to Kansas City, Chicago, Cincinnati, or other packing towns and sell there to buyers who represent the packers. The headquarters are in direct telegraphic communication with all parts of the country and of the world. An order from Europe is received and filled in the same time it takes to attend to a message from a town a hundred miles away.

This powerful combination of men and money in one business puts them in position to keep prices on the level of the cost line.

Concentration of labor gives greater efficiency to individual exertion. Concentration of capital enhances the value of every dollar invested. Combination of labor and capital multiplies effort, increases value of money, cheapens production, reduces the number of buyers and gives them control of the markets. Animals for slaughter, shipped to the great markets, are bought by agents of houses which deal in the particular class of stock, and such houses are comparatively very few. The strong packing houses in Chicago can be counted on the fingers of one hand, and they are virtually the only bidders for all the fat stock that reaches that city. Out of the millions of fat cattle, hogs, and sheep, sold every year at Chicago, half a dozen great establishments buy nearly all of them, excepting such as are bought by representatives of packers at other cities.

The following table shows the movement of cattle, sheep and hogs at Chicago since and including 1880. We have not the reports for 1893.

Years.	Receipts.				Shipments.			
	Cattle.	Calves.*	Hogs.	Sheep.	Cattle.	Calves.*	Hogs.	Sheep.
1880	1,382,477	....	7,059,355	335,810	886,614	....	1,394,990	156,510
1881	1,498,550	48,948	6,474,844	493,624	938,712	33,465	1,289,679	253,938
1882	1,582,530	24,965	5,817,504	628,887	921,009	10,229	1,747,722	314,200
1883	1,878,944	30,223	5,640,625	749,917	936,758	12,671	1,319,392	374,463
1884	1,817,697	52,353	5,351,967	801,630	791,884	31,089	1,392,615	290,352
1885	1,905,518	58,500	6,937,535	1,003,598	744,093	33,610	1,797,446	260,277
1886	1,963,900	51,290	6,718,761	1,008,790	704,675	18,657	2,090,784	266,612
1887	2,382,008	65,859	5,470,852	1,360,862	791,483	15,956	1,812,001	445,094
1888	2,611,543	96,086	4,921,712	1,515,014	968,385	23,663	1,751,829	601,241
1889	3,023,281	122,968	5,998,526	1,832,469	1,259,971	35,576	1,786,659	711,315
1890	3,484,280	175,025	7,663,828	2,182,667	1,260,309	61,466	1,985,700	929,854
1891	3,250,359	205,383	8,600,805	2,153,537	1,066,264	48,331	2,962,514	688,205
1892	3,571,796	....	7,714,435	2,145,079	1,121,675	....	2,926,145	483,368

* Prior to 1881 calves were included with cattle.

GENERAL CAUSES WHICH TEND TO DEPRESS PRICES OF ALL FARM PRODUCTS.

Transportation.—While it is true that cost of transportation has been greatly reduced within twenty-five years last past, it is still excessive. We do not wish to be understood as saying that stockholders in railway corporations are receiving a higher rate of profit on their shares than bankers or money lenders are receiving on their loans; nor are we saying that railway shares are particularly profitable investments. What we do say is, that railway companies as a rule are capitalized twice as high as they ought to be, and hence the public at large, and patrons of the roads specially, are taxed a hundred per cent more than a fair rate on all they send or receive over the roads. The total capitalization of all the railroads in the country in 1892 was nearly $10,000,000,000, more than twice as much as the roads are actually worth. This capitalization consists of stock and bonds in nearly equal proportions. The stockholders own the stock, the bondholders own the bonds, and the railroad property is held for both. Rates of charge for carrying persons and property are intended to be so regulated as to allow a fair rate of profit on the aggregate investment. If on present capitalization one ton of freight is carried one mile for one cent, on a proper capitalization the cost would be one-half a cent. Some roads are carrying more watered stock than others, but there is not one road in the United States that is not capitalized far beyond its actual present worth; and our railway system has become so completely one, that charges are all fixed on the same high and unjust level without regard to the amount of its capital stock or the extent of its indebtedness.

We are not unmindful of the fact that consumers share more largely than producers in the benefits of reduced transportation charges. If all the farmers of the United States were located in Kansas and all their surplus grain and stock were to be sold in New York City, a reduction of 5 cents a bushel on the transportation of wheat would hardly be felt by the farmers, the benefits of the reduction being enjoyed almost if not quite wholly by the consumers. On the other hand, the farmers would get the benefit of any reduction on supplies coming to them from New York.

Farmers are not all in Kansas, however; they are scattered over all the great country; they nearly all raise wheat, and they ship it over a thousand different lines of road. One road serves as a sort of regulation of other roads, and a great many influences local and general tend to remove friction, to minimize cost, and to equalize advantages. With this tendency naturally growing out of the nature of the business and the restraining influences of the law, the burdens of this unjust taxation must be borne by farmers and other classes in proportion to the amount of business they have to transact with the railroad companies, and there is no escaping the conclusion that the prices of the property carried must be injuriously affected and depressed by reason of the extra charge for transportation. The market value of every item of surplus property on the farm is thus affected.

FOREIGN COMPETITION.

Our farmers have foreign competitors in the production of wheat, corn, cattle, sheep, cotton, tobacco, wool, hides, animal products, wheat, flour, and fruit.

In one case at the World's Columbian Exposition there were samples of wool from each of the following-named countries, States and cities: Silesia, Germany; Cape of Good Hope, Africa; Port Philip, Sydney, Australia; Texas, Nevada, Colorado, East India, Bagdad, Persia, Georgia, Egypt.

Of the 243,000,000 bushels of wheat annually required to supply the foreign demand, we furnish, on the average, about one-third. Our principal competitors for the foreign wheat trade are Austria-Hungary, Bulgaria, Roumania, Russia, Servia, India, Argentine Republic, Canada, Chile, and Australasia. Our home prices for wheat are largely controlled by the foreign wheat market, and that is regulated by those who supply the greater part of the demand, and the effect on our wheat market is to bring down prices.

The principal wool exporting countries are the Australian colonies, Argentine Republic, Uruguay, and the British Possessions in Asia and Africa. The Argentine Republic exports annually about 266,000,000 pounds, and New South Wales about 200,000,000 pounds. The total product of the United States is about 300,000,000 pounds, on the average, annually. In 1890 our production was 285,000,000 pounds, and we imported 126,000,000 pounds. In 1891 we produced 307,000,000 pounds. We produce about 70 per cent of the wool we consume. Thirty per cent is imported, and it comes chiefly from Australia and South America.

LAND.

Mortgage debt.—Land values have been specially depressed by two causes which may be classed as general, and these are themselves effects rather than causes—debt and taxation.

Where indebtedness of farmers becomes so onerous or so common as to attract public attention in any way, values of land fall, just as those of any other species of property fall when an unusual quantity is thrown on the market. Debt breeds discontent, and the complaints which follow remove the props that sustain prices. When it appears that farming does not pay as well as it did in past years, purchasers are more timid, and the demand falls off. If failure to pay maturing obligations results in litigation and lands have to be sold to satisfy judgments, that tends to depress values, and the more sales are advertised the harder the pressure becomes.

The indebtedness of farmers has been and now is very heavy. The census reports for 1890 are not completed, but enough has been given to the public to show that the aggregate is almost incomprehensible.

The farm mortgage debt due in the several States and Territories, excepting Virginia, Washington, West Virginia, and Oklahoma, on the first day of January, 1890, was estimated by the Census Bureau to be $5,832,493,204. Of this total the farm debt was $2,127,626,449, and the debt on town and city lots was $3,704,866,755.

The average per capita debt on real estate—farms and homes—for the entire country was $101. That is to say, the land mortgage debt owed by individual owners was equal to a debt of $101 to each person in the United States.

So heavy a burden on land, and especially during a period of falling prices, can not but be depressing. The average situation in this respect was fairly expressed concerning the farm lands of New York by the State assessors for that State in their report to the legislature under date February 3, 1890. Among other things the assessors say: "There continues to be a marked depreciation in the value of farm lands in nearly every county, and the depression among farmers continues while the prospect for improvement is not good; many assert that after paying expenses they can not realize from their farms sufficient to pay the interest on the mortgage against them and consequently thousands of farms are falling into the hands of mortgagees."

Taxation.—Much complaint is made that a large amount of personal property escapes taxation, thus throwing a greater burden on real estate. The reports of officers charged with matters relating to assessment and taxation show a steady decline in the proportion of personal property to real estate on the tax rolls.

We present a few tables and call attention to the steady increase of real-estate values and the comparative diminution of personal values.

INDIANA.

Years.	Real estate.	Personal property.
1884	$565,900,254	$238,391,019
1891	797,038,859	288,038,859

The gain on real-estate values from 1884 to 1891 was 41 per cent, while that on personal property was only 21 per cent—a trifle more than one-half as much.

OHIO.

Year.	Land.		Personal property.
	Acres.	Value.	
1874	25.416,998	$697.408.537	$528.121.588
1875	25.458,323	696,883.323	535,660,888
1876	25,350.658	704,940.269	520.681.500
1877	25,426,707	705,896,953	490.190.387
1878	25,201.743	709,223,985	461,460,552
1879	25.376,264	716,111,437	442.979.885
1880	25,382,785	705,821.074	456,166,034

Land values increased $8,412,537 from 1874 to 1880, while the value of personal property fell off $71,955,554.

NEW YORK.

Aggregate valuation of real and personal property as assessed for taxation for the years 1870 to 1890:

Year.	Real estate.	Personal property.
1870	$1,532,720,907	$434,280,278
1880	2.315.400.526	322.468.712
1889	3.213.179.201	354.258,556
1890	3,298,323,931	385.329.131

In New York the reported value of personal property in 1890 was $48,951,147 less than in 1870.

WISCONSIN.

Real and personal property.

Year.	Real estate.	Personal property.
1886	$398,372,090	$104,713,164
1892	534,275,218	118,724,782

In Wisconsin real estate values gained 34 per cent, while personal propery reached but 13 per cent from 1886 to 1892.

MINNESOTA.

Year.	Real estate.	Personal property.
1878	$183,615,738	$46,175,304
1892	541,406,279	96,043,649

Gain on real estate since 1878 was 250 per cent; on personal property 108 per cent.

IOWA.

Equalized assessment of lands and the assessment of personal property for a period of twenty-two years.

Year.	Equalized assessment of lands and town lots.	Assessment of personal property.	Year.	Equalized assessment of lands and town lots.	Assessment of personal property.
1870	$222,561,061	$71,971,191	1881	$303,870,905	$89,327,400
1871	273,836,469	75,201,885	1882	303,870,905	96,136,476
1872	273,836,469	73,880,076	1883	336,323,084	98,809,203
1873	278,586,019	71,683,367	1884	336,323,084	97,653,463
1874	278,586,019	74,030,734	1885	353,614,837	103,372,905
1875	294,313,368	79,032,896	1886	353,614,837	101,654,942
1876	294,313,368	84,288,071	1887	359,982,086	101,665,008
1877	302,277,661	79,971,680	1888	359,982,086	100,799,562
1878	302,277,661	77,485,822	1889	374,753,112	103,564,136
1879	303,381,498	79,618,995	1890	374,753,112	105,543,264
1880	303,381,498	82,638,655	1891	376,181,276	109,715,691

Real estate increase, 70 per cent; personal increase, 53 per cent.

KANSAS.

Year.	Real estate.	Personal.
1887	$250,070,144	$60,796,746
1891	295,230,181	47,401,227

Real estate gained 18 per cent, while personal property lost 21 per cent.

CALIFORNIA.

Valuation of real and personal property.

Year.	Total assessed value of property in California.	Value of personal property.	Percentage of personal property.
1867	$213,205,339.00	$100,105,600.00	47·17
1868	237,483,175.00	105,112,083.00	44·26
1869	260,563,879.00	104,723,592.00	40·19
1870	277,538,134.00	108,001,588.00	38·90
1871	267,868,126.00	86,174,230.00	32·17
1872	637,232,823.00	219,942,323.00	30·40
1873	528,747,043.00	118,425,520.00	22·20
1874	611,495,197.00	210,779,127.00	34·46
1875	618,083,315.00	199,243,292.00	32·07
1876	595,073,177.00	140,431,866.00	25·27
1877	586,953,022.00	128,780,824.00	21·77
1878	584,578,036.00	118,304,451.00	20·23
1879	549,220,968.00	112,325,850.00	20·45
1880	666,399,985.00	174,514,906.00	26·18
1881	659,835,762.00	160,058,309.00	21·24
1882	608,642,036.00	134,048,419.00	22·02
1883	765,729,430.00	167,838,644.00	21·85
1884	821,078,767.00	166,394,997.00	20·26
1885	859,512,384.00	172,760,681.00	27·90
1886	816,446,700.00	151,937,132.00	18·60
1887	956,740,805.00	195,663,387.00	17·31
1888	1,107,952,700.00	173,273,458.00	15·63
1889	1,111,550,979.00	170,661,836.00	15·35
1890	1,101,137,290.00	169,489,475.00	15·39
1891	1,239,647,063.00	189,599,783.00	15·29
1892	1,275,816,228.00	187,008,874.00	14·66

The percentage of personal to total property in California fell from 47 in 1867 to 14 in 1892.

A committee of the Massachusetts State Grange, appointed to investigate this subject, reported fully on the 17th day of December 1890, and among many other things, said:

> Some authorities claim that the personal property in Massachusetts is four times the value of the real estate. Those who claim to be very conservative estimate it to be at least double. We have no doubt the latter estimate is low.

Then the committee show that the real estate valuation for 1889 was $1,530,000,000, and while the personal property ought to have been listed at least as high as $3,060,000,000, it was reported at only $1,050,000,000, thus alleging that at least $2,000,000,000 worth of personal property in Massachusetts wholly escapes taxation. If this amount had borne its proper share of tax, the committee say the average rate of taxation would have been reduced from $15 on the $1,000 to $8.44 on the $1,000, nearly one half.

In the annual report of the comptroller of the State of New York, submitted January 20, 1891, that officer, at some length and with particularity, calls attention to the fact that personal property in New York State does not "bear its equitable and fair rate of taxation." He says "real estate is continually overburdened, while personal property everywhere escapes its due proportion of liability." Again, he says: "It is, I believe, an incontestable fact that over $2,500,000,000 of personal property escapes taxation." He expresses the opinion that "the effect of this unjust discrimination against real estate in levying taxes has been to largely depreciate land values throughout the State * * * *. Such depreciation in real estate values in the rural districts of the State during the past few years has been most marked, resulting, as I believe, in an appreciable loss to owners of at least 33⅓ per cent in shrinkage of values, with corresponding loss in profits derived therefrom."

The same officer again calls attention to the same facts in his report submitted on the 31st day of December, 1891, and he repeated his argument in 1892.

The governor of Pennsylvania, in his message to the legislature, delivered January 6, 1885, discussing this subject, used the following language:

> An examination of the subjects of revenue and taxation induces the belief that the time has arrived for the State to do something to equalize the burden of taxation upon real and personal property. It is true the State imposes no direct tax upon real estate, but it is equally true that that species of property in this Commonwealth furnishes four-fifths of all the revenue raised within its borders. The figures are indeed suggestive. As far as ascertained, it appears that for State, borough, township, county, municipal, and all other purposes, there is yearly raised by taxation about $38,000,000. Of this sum, real estate pays about $30,000,000 and personal property about $8,000,000.
>
> One would suppose from these figures that the difference in value of the two species of property would be in some proportion to the difference in the amount each contributes to the public revenues. The facts, however, do not support such a supposition. The value of the paid-in capital of corporations (largely below the authorized capital) is about $1,200,000,000. The value of money at interest, horses, carriages, watches, etc., amounts to about $300,000,000, making as the total value of these forms of personalty $1,500,000,000. Of course these figures are very much below the actual value of all the personal property in the Commonwealth, as the means for the valuation of that form of wealth are very imperfect, and a true appraisement, from the nature of such property, is difficult to obtain. The real estate in the Commonwealth, according to the latest returns, is valued at $1,600,000,000. The difference, therefore, in the value of these two kinds of property is only about $100,000,000, while one pays but $8,000,000 in taxation and the other pays $30,000,000. This is surely an unwarrantable and unjust discrimination, oppressive

to real estate, and giving personalty an exemption from the public burdens in contravention of the spirit of the constitution and natural equity. There is no reason why the capital of the farmer should be taxed four times as much as the wealth of another citizen.

Two years later, in his message, the governor, referring again to the same matter, said:

> **If our laws were competent to an exact and truthful assessment of the value of personal property, it would, without a doubt, equal and most likely largely exceed the value of the real estate. As a matter of fact, therefore, real property in this Commonwealth is burdened by taxation four times as heavily as personal property.**

This "unjust discrimination" against real estate is matter of general complaint among farmers in all parts of the country, and the figures and statements above given show that the complaint is not unreasonable. That it has a depressing influence on land values does not, in the opinion of the subcommittee, admit of any reasonable doubt.

Money.—As to particular species of personal property which escapes taxation we are not prepared to give details, yet we find that in some States money bears so small a proportion of taxation as to be scarcely worth mentioning, though the amount of money reported to be in the country is equal to 6·7 per cent of the assessed valuation of all the taxable property.

In most of the States money is not reported separately in the State returns, so that it would be difficult, without great labor and expense, to ascertain even approximately how much money, in the aggregate, is taxed. In four of the States we find reports of the aggregate amount of money taxed in those States. Taking California, to begin with, the following statement shows the amount of money assessed for taxation for the years 1875 to 1892:

1875	$15,011,777	1884	$10,874,971
1880	24,678,330	1885	10,483,087
1881	13,597,566	1886	9,069,601
1882	12,702,056	1890	9,933,997
1883	11,152,463	1892	11,538,028

The following table shows the value of all the property assessed for taxation in California the same years—1875 to 1892:

Year.	Total assessed value of property in California.	Year.	Total assessed value of property in California.
1875	$618,083,315	1884	$821,078,767
1876	595.073,177	1885	859,512,384
1877	586,953,022	1886	816,446,700
1878	584,578.036	1887	956,740,805
1879	549.220,968	1888	1,107,952,700
1880	666.399.985	1889	1,111,550,979
1881	659.835,762	1890	1,101.137,290
1882	608,642,036	1891	1,239,647,063
1883	765,729,430	1892	1,275,816,228

It will be observed that while the amount of money taxed fell steadily from $15,011,777 in 1875 to $9,933,997 in 1891, and rose about a million and a half in 1892, the total property valuation rose steadily from $618,083,315 in 1875 to $1,275,816,228, more than 100 per cent, in 1892.

In Nebraska the total amount of money (outside of banks) assessed for taxation rose from $546,308 in 1881 to $654,822 in 1892; while the assessed value of improved lands alone rose from $30,736,418 in 1885 to $49,356,703 in 1892.

In Kansas the amount of money taxed fell from $4,263,848 in 1887 to $1,749,386 in 1892, while during the same five years the assessed value of all property in the State rose from $310,866,890 to $342,631,308.

This great falling off in the amount of money reported for taxation may, perhaps, be partially accounted for on the ground that most of the money used by the people is paper money, and paper money is not subject to taxation under our laws.

Sections 3701 and 5413 of the Revised Statutes of the United States read as follows:

> SEC. 3701. All stocks, bonds, Treasury notes, and other obligations of the United States shall be exempt from taxation by or under State or municipal or local authority.
>
> SEC. 5413. The words "obligations or other security of the United States" shall be held to mean all bonds, certificates of indebtedness, national bank currency, coupons, United States notes, Treasury notes, fractional notes, etc.

National bank notes and silver certificates are not money; one is the note of a bank, the other a certificate showing that the money it represents is in the United States Treasury.

On the 3d day of December, 1893, the New York World published near a column and a half of descriptive matter, introduced by headlines in large letters, as follows: "Diamonds at the opera—A magnificent display of gorgeous jewels in the boxes estimated to be worth $19,000,000—Several millions more in the stalls—A spectacle whose regal splendor commended as great attention as the opera itself."

The reporter says there were at least 4,500 persons in attendance. It was the opening night of the opera season at the Metropolitan opera house and "society" was seen at its best. After two introductory paragraphs, the sketch proceeds:

> MANY MILLIONS IN DIAMONDS.
>
> With the turning on of the electric lights, flashes of many hues scintillated from the tiaras and necklaces worn by society's queens, for Monday night was a veritable blaze of diamonds. The wearers displayed themselves in the cushioned, padded, and silk-lined boxes much as casket jewels are shown in the stores. Somebody has figured up that twenty-five hundred millions of dollars are possessed by the men who own the grand tier of private boxes, and somebody else of the same inclination estimated that in the two rows of boxes last Monday night $19,000,000 worth of jewels were displayed by the occupants. Allowing that at least $10,000,000 worth were scattered over the remaining parts of the house, for diamonds were in profusion in the orchestra and many gems were noticed as high up as the family circle, that would make altogether a rough estimate of at least $29,000,000 worth of diamonds in the general display.
>
> That may seem impossible until you stop and think how easily a few thousands and tens of thousands multiplied again and again and scattered here and there and everywhere foot up a million. A $1,000 diamond does not spoil the dainty contour of a woman's ear, but on the contrary heightens its shell-like transparency. A $20,000 necklace only sheds a tiny thread of light upon the perfect neck, while a $30,000 tiara neither looks awkward nor too heavy on the graceful head of its wearer. Fifty thousand dollars' worth of diamond sprays, ornaments, and pins do not make more than a superb finish to a magnificent chest and dimpled shoulders. A jeweled fan with which to gracefully accentuate one's remarks can easily cost $5,000. And then there are bracelets and rings and all those indescribable costly trifles which a woman of luxurious wealth regards as essential and which she knows just how to wear. All these were common possession in the opera house last Monday night. They were far commoner than gilt pins among the shop girls of Sixth avenue.

Twenty-nine million dollars taxed at 2½ per cent would yield $725,000—a handsome bit of revenue. But it is not at all probable that any part of it is regarded as anything more—for purposes of taxation—than the value of mere personal adornment, a cool sort of wearing apparel, and therefore not subject to taxation.

The amount of personal property of this general character that is used only by rich people and because they are rich, that escapes not only its just share of taxation, but all taxation, is inconceivably great. What such luxuries ought to bear in the way of tax burdens must be borne by persons whose property is visible to the eye of the assessor. This inequality bears most heavily on farming lands, and is therefore a factor in depressing land values.

GENERAL CAUSES WHICH TEND TO DEPRESS PRICES OF ALL ARTICLES.

Having considered special causes which affect the prices of farm products locally, and also general causes which affect prices of particular articles, it remains for us to point out what the committee believe to be general causes affecting prices generally.

If farm products were the only articles which have fallen in price, we would probably find some special reasons for it—reasons not, however, broad enough to cover the whole field of commerce. Depression has been so general, affecting so wide a range of prices, that where articles are found whose market values have been well maintained, they appear to be exceptions which may be explained by circumstances and conditions that are exceptional rather than general. At all events it may be stated that depression is found to exist among many articles of manufacture as well as of the products of agriculture.

A committee of the Senate (Mr. Aldrich, chairman) submitted a report March 3, 1893 (Senate report 1394, 52d Congress, 2d session), containing elaborate tables showing the average of prices since 1840, and also the trend of prices, taking those of the year 1860 as the basis of comparison. We quote from p. 11 of part 1 of the report:

> In the analysis agricultural products have been treated separately. For fifteen products prices have been obtained. The list includes the great staple products of American agriculture, and the summary gives a fair picture of the relative prices of these products.
>
> In 1891 the relative price as a whole stood at 97·1, being a fall of about 3 per cent since 1860. The course of prices throughout the period from 1860 to the present time is shown in the following table, where the prices from 1861 to 1878 are expressed in gold:

Average prices of agricultural products in gold, 1860–1891.

Year.	Simple average of 15 products (from Table 33).	Year.	Simple average of 15 products (from Table 33).
1860	100·0	1876	102·0
1861	91·7	1877	104·2
1862	128·5	1878	97·0
1863	121·7	1879	98·4
1864	167·1	1880	109·9
1865	90·0	1881	121·1
1866	122·6	1882	114·4
1867	127·3	1883	100·3
1868	124·8	1884	104·7
1869	119·8	1885	93·9
1870	121·1	1886	96·5
1871	117·8	1887	94·9
1872	118·4	1888	95·7
1873	117·7	1889	91·3
1874	123·4	1890	97·4
1875	112·1	1891	97·1

> Since 1885 prices have been uniformly lower than in 1860. At the same time it will be observed that the fall is not so marked as in the price of commodities in general. Tables contained in the body of the report show that prior to 1860 prices were noticeably lower than they are at the present time. The number of articles for which prices in that period are given is too small to justify the formation of an average. Therefore, reference must be made to the individual products.

The fifteen articles included in the table are: barley, clover seed, corn, cotton (upland middling), flaxseed, hemp, hides, meat (beeves), meat (hogs), meat (sheep), oats, rye, timothy seed, tobacco, and wheat. It will be seen that while depression has been much greater in some cases than in others, on the general average the prices of these fifteen articles the decline has been from 121 in 1881 to 97 in 1891, a drop of 20 per cent in ten years, and the prices of 1860 are taken as the base. The figures from 1861 to 1878 represent gold prices.

In the same report, beginning at p. 67, is found a series of tables representing prices of different classes and grades of manufactured articles (cloths) arranged in nine groups, the prices being compared with the average prices of the same classes of articles in 1890. The following table shows a summary of the comparisons:

Relative prices of cloths and clothing compared with 1890.

SUMMARY.

Year.	Group I.—Suitings.	Group II.—Carpets.	Group III.—Blankets and flannels.	Group IV.—Cotton textiles.	Group V.—Leather and shoe wear.	Group VI.—Women's dress goods.	Group VII.—Silks.	Group VIII.—Linen goods.	Group IX.—Underwear.	General average of all articles.
1860	122·7	127·1	123·2	138·9	133·4	....	....	....	....	131·8
1861	122·7	123·4	113·5	132·3	117·3	....	....	....	....	124·4
1862	136·6	131·5	131·3	177·2	135·2	....	....	....	....	151·8
1863	179·4	186	139·7	352·1	162	....	....	....	....	150·3
1864	205·5	219·6	141·3	446·4	201·7	....	....	....	....	296·1
1865	222·8	337	145·3	650·4	213·8	....	....	....	....	410·3
1866	204·1	289	130·3	468·5	176·5	....	....	....	....	327·5
1867	170·7	287·6	120·4	336·7	177·8	181·1	....	....	....	251·1
1868	166·5	230·9	112·1	216·4	168·6	143·2	....	....	160·4	189·7
1869	144·9	231·5	116·1	231·4	169·5	205·6	....	....	160·4	195·5
1870	141·8	226·3	122	222	165·4	208·1	....	116·8	154·7	186
1871	149	194·8	127·1	189·5	160·8	211·6	189·9	111·2	185	172·7
1872	157·7	211·5	148·4	195·3	154	180·1	188·7	111·2	162	174·2
1873	153·1	191·9	148·8	192·5	154·9	184	180·4	108·4	176·5	171·6
1874	145·1	187·9	132·7	171	152·6	130·4	177·9	108·4	172·7	157·8
1875	137·1	180·5	131·9	151·5	141·2	171·6	160·3	101·8	163·9	147·1
1876	122·8	182·7	119·5	136·8	135·3	122·5	168·3	115	160·4	135·5
1877	115·6	161·8	107·5	125·4	137·2	158·5	140·2	112·6	147·6	128·8
1878	109·5	136·7	104·6	116·6	124·4	151·4	133·6	106 3	136·2	120
1879	107·2	125·5	104	105·6	120	138·4	146·6	102	123·4	114·9
1880	117·7	138	113·5	124·7	122·2	144·1	129·7	102·8	133·2	124·1
1881	113·5	134·2	109·1	120·6	126·1	138	121·2	93·9	120	120
1882	113·9	133·8	105·5	122·3	127·3	126·6	119·9	95·5	117·9	119
1883	109·5	133·2	101·5	116·1	124·8	121·5	115·7	94·9	117·9	114·6
1884	108·0	120·9	95·9	106·9	121·7	117·8	110·2	94·4	113·3	109·5
1885	103·8	109	95·5	100	122·7	107	107·6	97·3	105·8	105·5
1886	106·1	110·4	100·9	96·4	117·9	102·3	112·2	94·8	108·1	104·6
1887	104·2	108·5	100·8	99·9	118·6	107·5	117·6	94·8	103·2	105·9
1888	101	103·2	99·7	104	110·6	104·2	110·8	93·2	105	103·8
1889	100·4	100·1	102·1	103·8	108	96·2	111	99·2	100·8	102·9
1890	100	100	100	100	100	100	100	100	100	100
1891	99.4	107·5	98·6	98·2	104·5	101	94·4	100	101·5	99·9

On page 91 of the same report we find a table showing the general average prices for each year from 1840 to 1891. This table is made up of eight different classes of articles, the averages for each class having been found and stated on other pages of the report.

On examination of these figures it will be found that since 1883 the general level of prices has fallen about 10 per cent.

Relative prices in each year, 1840–1891, by groups of articles.

Year.	General average of prices.								
	Food.	Cloths and Clothing.	Fuel and lighting.	Metals and implements.	Lumber and building materials.	Drugs and chemicals.	House furnishing goods.	Miscellaneous.	All articles.
1840	96·6	110·7	395·8	123·5	110	145·8	116·4	147·1	116·8
1841	94·4	113·4	208·9	123·7	111·8	141·3	116·4	147·1	115·8
1842	82·9	100·9	202	118·7	108·8	131·6	116·4	170·6	107·8
1843	79·3	99·9	187·5	114·7	105·4	121·4	100·3	123·5	101·5
1844	81·6	105	119·7	133·3	103	119·7	102·3	129·5	101·9
1845	87·3	97·1	239·6	110·8	106·7	121	102·3	114·8	102·8
1846	94·6	95·3	143·8	116·9	106·2	123·9	111	111	106·4
1847	94·7	97·6	110·7	120·6	108·2	112·5	120·3	121·7	106·5
1848	83·5	87·5	106·1	119·7	105·3	113	121·7	125·6	101·4
1849	79	82·2	100	124·9	97·6	111	120·5	109·8	98·7
1850	85·5	91·3	102·6	114·8	102·2	123·6	125·6	107·7	102·3
1851	90·6	94·7	97·3	119·2	97·2	125·8	120	102·7	105·9
1852	88·7	88·7	93·5	117·7	100·4	111·8	111·9	100·5	102·7
1853	101·2	98·6	101·6	122·8	103·2	107	118·7	109·2	109·1
1854	105·9	97·4	106·8	125·6	114·1	110·7	121·2	108·4	112·9
1855	111·8	94·7	121·1	117·8	103·4	129·2	121·2	115·2	113·1
1856	110·4	100·6	126·4	115·3	102·8	135·5	115·5	121·6	113·2
1857	117·5	106	113·3	110·4	105	126·8	116·8	110	112·5
1858	94·6	98	111·4	101·3	103·8	116	108·7	97·1	101·8
1859	98·8	101·1	98·8	100·1	98·7	104·2	103·2	100·8	100·2
1860	100	100	100	100	100	100	100	100	100
1861	95·8	94·9	103·5	102·5	108·9	101·3	96·8	100·7	100·6
1862	110·4	124·1	97·2	117·2	149·2	116·4	89·5	103·7	117·8
1863	133	191·6	107·1	140	177·1	146·5	123·1	129·1	148·6
1864	165·8	260·7	180·2	179·8	221·3	170·3	164·6	154·4	190·5
1865	216·5	299·2	237·8	191·4	182·1	271·6	181·1	202·8	216·8
1866	173·8	226·6	280·5	171·1	186·9	230·2	185·3	171	191
1867	163·9	179·9	196·3	161·3	178·8	211·2	159·1	161·4	172·2
1868	164·2	146·8	218·7	150·5	174·3	177·9	134·9	164·1	160·5
1869	162·9	147·5	206·8	141·3	165·9	160·9	120·7	162·3	153·5
1870	153·8	139·4	196·5	127·8	148·3	149·6	121·6	148·7	142·3
1871	169·3	133·3	144·1	122·2	151·4	139·4	128·5	148·8	136
1872	133·3	143	149·2	128	166·9	134	123·2	132·7	138·8
1873	129·8	136·9	134·6	129·8	171·9	141·5	109·1	132·4	137·5
1874	131·5	127·9	149·6	121·1	154·9	146·8	109·5	129·8	133
1875	130·5	120·1	156·5	117·5	143·7	144·2	95	122·9	127·6
1876	123·1	107·5	144·6	108·4	137·3	121·8	87·2	114·2	118·2
1877	120·3	101·8	108	100	125·8	122·3	79	118·2	110·9
1878	107	93·2	93	92·1	116·8	114·2	74·3	111·7	101·3
1879	97·6	91·1	95·3	88·4	115·1	110·9	68·6	102·1	96·6
1880	107·6	104·5	100·2	96·3	130·9	113·1	85·2	109·8	106·9
1881	110·9	99·9	113·7	91·1	131·3	110·4	77·6	108·8	105·7
1882	118·8	98·7	110·1	91·2	137·5	107·6	78·1	114·6	108·5
1883	118·8	94·8	114·2	87·5	134·3	98·1	77·5	117·3	106
1884	108·9	88·9	102·4	81	129·5	95·7	76·3	111·9	99·4
1885	98·7	84·8	89·6	77·4	126·6	86·9	70·1	97·5	93
1886	99·5	85·1	86·2	75·8	128·5	83·9	68·4	91·3	91·9
1887	104·2	84·7	88·6	74·9	126·5	83·6	66·4	88·6	92·6
1888	109·4	84·7	94·9	74·9	124·8	86	66·9	89·3	94·2
1889	111·9	83·6	95·3	72·9	124	88·8	70	88·8	94·2
1890	104·6	82·4	92·5	73·2	123·7	87·9	69·5	89·7	92·3
1891	103·9	81·1	91·6	74·9	122·3	86·3	70·1	95·1	92·2

Comparing these figures with those representing particular products of the farm, as grain and livestock, it will be seen, that while, on the general average, all prices have declined about 10 per cent since 1883, the average for the farm has been three times as great as that. And while the immediate causes for this difference are general in their nature, they have borne with greater weight on agriculture than on any other department of industry.

INDUSTRIAL COMBINATION.

This includes railroad transportation and manufacturing establishments whose operations concern agriculture, as merchant mills and packing houses.

Railroads.—Discriminations by railway companies, while they may affect consumers as well as, and as much as, they affect producers, yet, as we have shown before, farmers are consumers of a great many articles produced in other parts of the country and of the world, as well on farms as in shops and mines. Farmers in some States purchase vast amounts of things produced by farmers in other States. Much of the surplus corn, wheat, beef, pork, and mutton grown in Kansas and Nebraska are consumed on farms in Louisiana, Mississippi, Alabama, Florida, the Carolinas, and other States. It now costs twice as much as it ought to cost—even at present high rates in other parts of the country, to carry grain from States west of the Missouri River to those of the Southern coast. The Mississippi River is a line between railway divisions where freight rates are changed. It has cost more to bring fruit from California to Denver direct than it does to take it over the same road to Kansas City on the Missouri River, and then back to Denver, nearly 600 miles west. This was true in practice only a year or two ago, and, although it was ruled against by the Interstate Commerce Commission, it is not clear that there has been any substantial change by the railroads. It costs as much to carry grain from Kansas City to Chicago, 500 miles, as it does to carry the same quantity of same grain from Chicago to New York, twice as far. It costs more than corn is worth on the farm in Kansas to carry it to Galveston, Tex., 600 or 700 miles away.

Like discriminations are noted in all the great farming regions of the country.

Special complaint is made in California and at points between that State and the Mississippi River. One orange grower in California stated to the chairman of the subcommittee that on account of excessive freight charges his net returns on 111 boxes of oranges carried from Anaheim to Minneapolis, Minn., was only $6.66. Five car loads of potatoes raised by another California farmer and by him shipped to Chicago, netted him $58.

Farmers in the West and farmers in the East complain alike of railroad discrimination against them, and while their grounds of complaint are substantially the same, the effect on the farmers is not the same. They all complain that local freight rates are too high in comparison with through rates, thus giving farmers at a long distance away an unjust advantage over them. This discrimination, whether it be great or small and whether the farmers' estimate of its magnitude and effect be overdrawn, it is not to be doubted that when considered in connection with other influences and agencies tending in the same direction, it does injuriously affect the prices of things produced on the farm for sale.

MERCHANT MILLS AND PACKING HOUSES.

Having heretofore called attention to the relation which great milling centers bear to agriculture and the natural effect of such powerful purchasing agencies on the general level of market prices of wheat, and the effect of the packing house business on prices of cattle, we need do no more, in this place, than to summarize the principles there set out and apply them generally in their relations to prices of all farm products.

It is an invariable rule in business, that men who purchase to consume in manufactures buy as low as they can; and this rule, when applied in all departments of manufacturing industry, has the effect to keep prices as low as the interests of the manufacturers require. And this comes about naturally—it is a law of trade. When a new departure is made in any particular line of business, combinations may be formed for the purpose of "freezing" out small competitors in order to get their trade away from them, as in the case of merchant flouring mills and packing houses. The same thing often takes place without any combination, for one man or one company alone, may have acquired influence enough in his business to crowd small dealers to the wall, by taking one or a few of them at a time. If it be to the interest of a packing house or a mill to secure the trade of a particular town or community, it need only send its goods there and undersell the local dealers until they quit of their own accord. This the great and powerful concern can afford to do, because it is strong and the local dealer is weak.

It has been common among farmers and working people generally to charge the hard effects of this practice to combinations formed by millers and packers, and they have not been able to understand why no such combinations have been proven by positive evidence to exist. It will be observed, on examination of testimony presented to this subcommittee, that millers and packers state positively that there is no such combination, and we are satisfied that the great packing houses and merchant mills of the United States are quite strong enough, alone and acting separately, to accomplish in their own interests all that they have done. When we consider the vast amount of capital necessarily employed in packing establishments where cattle and hogs and sheep are slaughtered by the million every year, and in merchant flour mills where flour is turned out at the rate of a million barrels a month; and when we consider, further, that these great concerns are in constant telegraphic communication with all parts of the country and of the world; and when we consider, still further, that they have agents wherever the interests of their business require their presence, and that they gather their supplies from a large area of country and distribute their products over a much larger territory, it is not difficult to comprehend the meaning of the proposition that these powerful industrial agencies are strong enough alone and without any private understanding among themselves and without any conspiracy among them, to produce the effects which have followed their business operations. In other words, it is the logical result of such vast combinations of men, money, and means to keep prices on the lowest level of the range.

For further illustration: A local butcher whose business requires but 10 beeves a week, needs to make a profit of $10 on each animal in order to make a good living above expenses; but the packer whose business disposes of 20,000 beeves a week can get along very well if he clears a profit of 10 cents ahead, for that would net him $2,000 a week or more than $100,000 a year. And when, by reason of utilizing all the different parts of the animal a satisfactory profit can be made without any gain whatever from the carcass, the effect on prices of animals is all the greater on that account, because it allows closer buying on animals.

The complement to that illustration is this: The farmer who has but 10 beeves a year to sell needs to make $20 a head clear in order to make a fair profit, but the great packers do not need much margin on carcasses, for their principal profits do not come from the carcass, and when they buy on a full market they can supply themselves leisurely. The inevitable result is to keep the market well in hand, for the rule of business is to buy on the lowest level of prices.

Briefly, the situation may be stated in two propositions: First, the rule of the buyer is to purchase at the lowest price; second, concentration of great business interests under one management diminishes the number of buyers and increases their influence in the market.

CONCENTRATION OF THE MONEY POWER.

If our conclusions thus far are correct, it is evident that the depression in agriculture can not properly be attributed to one cause only. Many things have operated, each in its own peculiar way, to aid in the general decline. In the opinion of your subcommittee, the most powerful factor in this downward trend of market values of farm lands and farm products is the concentration of the money power. The great bankers and speculators at centers of trade exercise a controlling influence in our financial legislation and dictate the policy of our Treasury Department. An officer of the Treasury—the assistant treasurer at the subtreasury in New York—is a member of the New York Bank Clearing House, not by authority of law, but by regulation of the Treasury Department. It has been customary since the beginning of the war of the rebellion for the Secretary of the Treasury to consult the powerful bankers and brokers of New York City in cases of danger to the national finances; and, on the other hand, the bankers and brokers have appealed to the Secretary when they found themselves facing a "stringency in the money market." Three notable instances may be cited. When the "gold corner" of 1873 collapsed the bankers of New York appealed to the Secretary of the Treasury and, through him to the President of the United States for assistance, and personal conferences were held with those officers, resulting in the putting out of a large amount (about $13,000,000) of money from the Treasury into the banks. The facts are set out in the finance report of the Secretary of the Treasury for the year 1873 at pp. xi to xv. We quote three paragraphs showing the temper of the bankers of New York:

> The Executive Department of the Government was anxious to do everything in its power, under the law, and with due regard to the protection of the Treasury and the maintenance of the public credit, to allay the panic and to prevent disaster to the legitimate commercial and industrial interests of the country; but it was found impossible to afford the relief in any of the many forms in which that relief was asked. It was decided, therefore, to adopt the only practicable course which seemed to be open to it, the purchase of bonds for the sinking fund to such an extent as the condition of the Treasury would allow, and thus release a considerable amount of currency from its vaults. Purchases of bonds were commenced on the morning of the 20th of September, and were continued until the 24th, when it became evident that the amount offering for purchase was increasing to an extent beyond the power of the Treasury to accept, and the purchasing was closed after bonds to the amount of about $13,000,000 had been bought, and without the use of any part of the forty-four millions of United States notes, generally known as the reserve.
>
> It should be stated that in the excitement there were many persons in the city of New York who insisted with great earnestness that it was the duty of the Executive to disregard any and all laws which stood in the way of affording the relief suggested by them—a proposition which indicates the state of feeling and the excitement under which applications were made to the Secretary of the Treasury to use the public money, and which, it is scarcely necessary to add, could not be entertained by the officers of the Government to whom it was addressed.
>
> These facts are recited in order to lay before Congress, and place on record in a concise form, exactly what the Treasury Department was asked to do, and what it did, in the late financial crisis.

Again, in 1890, because of a long-continued "stringency in the money market" at New York, the Treasury purchased $70,000,000 worth of Government bonds at a premium ranging from 25 per cent upward, and in addition made an advance of nine months' interest on bonds not purchased. The premium amounted to over $17,000,000 and the advanced interest exceeded $12,000,000, making a total principal, premium and interest, of nearly $100,000,000 paid out of the Treasury on obligations not due, all at the request of and to accommodate the great bankers of New York City. [See finance report 1890, pp. xvii to xx.]

After reciting the principal facts showing the state of feeling in financial circles, and referring to what the Treasury had done to relieve the "industrial and commercial interests," the report says:

> Notwithstanding the disbursements resulting from purchases and redemptions of bonds under the circulars of July 19 and August 21, the industrial and commercial interests of the country required that large additional amounts should be at once returned to the channels of trade. Accordingly, a circular was issued August 30, 1890, inviting the surrender of an additional twenty millions of 4½ per cents upon the same terms as before. This was followed by another, dated September 6, inviting holders of the 4 per cent bonds to accept prepayment of interest on those bonds to July 1, 1891, a privilege which was subsequently extended to the holders of currency 6's. Under the circular of August 30, there was redeemed $18,678,100 4½ per cent bonds, and under that of September 6 there was prepaid on the 4 per cent bonds and currency 6's interest amounting to $12,009,951.50

Collecting the several amounts paid out on bonds and interest, the facts are thus summed up:

> It will be seen from the above statement that during the three and one-third months from July 19 to November 1, 1890, over $99,000,000 were disbursed in payment for bonds and interest.

While this is being written, January 30, 1894, a proposition to issue and sell $50,000,000 Government bonds is pending, the authority of the Secretary of the Treasury to make the issue and sale is disputed, and the Senate is discussing the subject. The following is taken from the New York Sun of January 29, 1894. It is submitted as an important item of current news showing present relations between the Treasury of the United States and the banks of New York:

> The Secretary, on his arrival at the hotel, issued his statement printed in yesterday's newspapers.
>
> After issuing his statement Mr. Carlisle directed Mr. Jordan to invite the financial men to meet him at the subtreasury, and accordingly Mr. Jordan sent out the following early yesterday morning:
>
> "OFFICE OF ASSISTANT TREASURER UNITED STATES,
> "*New York City, January 29, 1894.*
>
> "The assistant treasurer of the United States has the honor to request your presence at a conference with the Secretary of the Treasury at the subtreasury at noon to-day.
>
> "Very respectfully,
>
> "C. N. JORDAN,
> "*Assistant Treasurer United States, New York.*"
>
> Promptly at noon Secretary Carlisle arrived at the subtreasury. He was accompanied by Assistant Secretary Curtis and Assistant Treasurer Jordan as he made his way to the private conference room in the upper story. Those who had assembled to meet him were George F. Baker of the First National Bank, William L. Strong of the Central National, Brayton Ives of the Western National, J. Edward Simmons of the Fourth National, Henry W. Cannon of the Chase National, A. B. Hepburn of the Third National, J. T. Woodward of the Hanover National, Frederick D. Tappen of the Gallatin National, George G. Williams of the Chemical National, James Stillman of the National City Bank, William W. Sherman of the National Bank of Commerce, Edward H. Perkins, jr., of the Importers and Traders', Ebenezer K. Wright of the National Park, Ebenezer S. Mason of the Bank of New York, all presidents; Vice-President Dumont Clarke of the National Bank of Exchange, President William A. Nash of the Corn Exchange, and President William H. Perkins of the Bank of America. State banks: President Stephen Baker of the Bank of the Manhattan Company, President Frederic P. Olcott of the Central Trust Company, President Edward King of the Union Trust Company, President John A. Stewart of the United States

Trust Company, President Charles S. Fairchild of the New York Security and Trust Company, and President Thomas Hillhouse of the Metropolitan Trust Company, and these private bankers: Charles Lanier of Winslow, Lanier & Co., Walter Luttgen of August Belmont & Co., and L. Von Hoffman. There were no representatives from Drexel, Morgan & Co. or Morton, Bliss & Co., which two firms in times past have been famous in floating Government loans.

What was done, if anything, will be officially reported in due time.*

The interview is said to have lasted about two hours.

It has become a custom of late years for Treasury officials to attend social as well as business gatherings of bankers and brokers and to deliver addresses on the business situation generally and particularly on the policy of the Treasury Department of the United States.

So intimately related have the business of the Treasury at Washington and that of the banks at New York become that the influence of the banks on Government policies is virtually supreme. In twenty-four hours these powerful institutions could command every dollar of gold owned by the Government. They need only present coin notes enough and demand the gold. Outstanding notes amount to about $500,000,000, payable in coin, which is construed to mean gold.

The business of the United States Treasury is conducted (1893) through nine subtreasuries, five mints, five assay offices, and a varying number of national banks. In 1893 the number of these banks was 158 at the beginning and 159 at the close of the year. Each one of these 178 Government institutions held a portion of the public funds. These national bank depositories, since and including 1879, have held an annual average of $18,000,000 of public money. The highest average for any one year was $54,913,489.71 in 1888. The lowest amount since 1885 was $12,393,071.11, in 1893.

During the year 1893 there was gold coin drawn from the Treasury amounting to upwards of $81,000,000 in redemption of greenbacks and Treasury notes paid out for silver bullion purchased under the provisions of the act of July 14, 1890, commonly known as the Sherman law. This gold, nearly equal to the total reserve fund, was all shipped out of the country. It was procured for that purpose. A like amount of Treasury notes, if now presented at one time and for a like purpose, would require more gold than the Government has, and this without the redemption of any part of the $346,000,000 greenbacks out, for whose protection the gold reserve was collected.

It will thus be seen that it is within the power of brokers, bankers, and speculators to embarrass the Government at any time they choose. The national credit is at their mercy every hour. Their influence over the people's public finances, and through that channel over the people's private business affairs, is practically unlimited. To use the language of one of them, "Wall street moves the money that controls the affairs of the world."

How this great power was acquired and how agricultural depression followed is plainly visible in the history of our financial legislation, beginning in 1861. With an empty treasury when the great war began, the Government was obliged to have money. Negotiations with bankers of New York failing to effect satisfactory arrangements, Congress authorized the issuance of United States notes to be used as lawful money and exchangeable for 5-20 bonds authorized by same act. While the proposition was pending the Secretary of the Treasury was considering the advisability of establishing a system of national banking, for he, as well as the bankers, did not favor Government paper money except as a temporary expedient. (See finance reports of 1861–'62–'63.)

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* The bonds have since been issued and sold; nearly all of them to New York bankers.

In 1863 a national bank act was passed entitled "An act to provide a national currency secured by a pledge of United States bonds." In order to induce bankers to take the bonds for United States notes and begin banking on them it became necessary to depreciate the value of the notes—greenbacks—and this was done by limiting the time within which the exchange could be made. (See finance report, 1864.)

The average depreciation of the notes amounted to about 40 per cent, so that the bonds with which our national banking system was begun were purchased at a cost of about 60 cents on the dollar. Bonds thus purchased by the banks and held as security for bank notes issued amounted, on the 30th day of June, 1869, to $342,861,600 and their cost was about $205,710,960, or 60 per cent of the face value of the bonds.

It may be well here to note the fact that these bonds, purchased at 60 cents on the dollar, were funded (1870) into bonds which in a few years rose to a premium of 20 to 25 per cent. What was 60 cents in 1864, and on to 1869, became 125 cents in 1882, when, because of this high premium, the banks began to sell their bonds to secure the advance price, and from 1882 to 1890 the bank-note circulation was diminished yearly at an average rate of about $27,000,000.

In 1864 the amount of United States notes (greenbacks) issued and to be issued was limited to $400,000.000, but that amount was not sufficient for Government uses, and other devices had been and were afterwards resorted to in order to supply the need for a larger circulating medium. Other classes of notes were issued, not as a permanent currency, but for temporary use. These were known as demand notes, one-year notes, two-year notes, compound-interest notes, seven-thirty notes, certificates, etc. At the beginning of the fiscal year 1866 (July 1, 1865) the aggregate amount of these different classes of notes out was $1,942,000,000, in round numbers.

The amount of national-bank notes out on the 31st day of October, 1865, was $204,635,205. This makes an aggregate paper currency circulation of $2,146,000,000—subject to decrease of bank notes from July to October.

It is contended by some persons that the seven-thirties ought not to be included in the volume of currency because, while they were notes and while some of them were made legal tender to the same extent that greenbacks were, still, they had been issued as a sort of "security currency," and therefore partook of the nature of bonds about as much as they did of notes. That they were prepared, issued, and used as currency, at least in part, is clear from the fact that they were so reported by the Treasurer of the United States, Mr. F. E. Spinner, in his report for the year 1869, when giving a list of all the "Government paper issued at any time and used as money." (See finance report 1869, page 244.

This large volume of currency was rapidly withdrawn, paid, or exchanged for bonds, leaving outstanding at the close of the fiscal year 1869 a total of $475,679,033.57, including $355,935,194 of United States notes—greenbacks.

It thus appears that within four years following the war, $1,467,000,000 of paper that had been used more or less as money among the people was withdrawn from circulation. Prices had advanced during the war and remained about stationary for a few years afterwards, when, following the contraction of the circulating medium, an irregular but rapid decline began. This was expected by all experienced men, for such a result has always followed a like proceeding everywhere. Senators and members of the House of Representatives called attention at the time to the disastrous effects of going to a specie basis by withdrawing the currency. In the experience of all nations that have used paper currency in large amounts for temporary purposes—as war—and then withdrawn it rapidly, prices advanced while the money volume was expanding and receded during the contraction. A general decline of prices followed, attended by a stringency of property values and by loss and distress among the people.

With the expansion of the money volume the general range of prices rose to a high level. Property was purchased, debts were contracted, and obligations assumed with reference to the then existing conditions.

Shrinking of values was accelerated by the passage of the act of March 18, 1869, by the terms of which it was provided that "the faith of the United States is solemnly pledged to the payment in coin or its equivalent of all the obligations of the United States not bearing interest, known as United States notes, and of all the interest-bearing obligations of the United States, except in cases where the law authorizing the issue of any such obligation has expressly provided that the same may be paid in lawful money or other currency than gold and silver."

The act to authorize the refunding of the national debt was approved on the 14th day of July, 1870. It provided for the issuance of bonds amounting in the aggregate to $1,500,000,000, of which amount $200,000,000 should be payable after ten years at 5 per cent interest; $300,000,000 payable after fifteen years with interest at 4½ per cent; $1,000,000,000 payable after thirty years with interest at 4 per cent, interest on all to be paid semiannually. These bonds and the interest thereon were to be paid in "coin of the present standard value." This act was amended the next year so as to increase the amount of the 5 per cent bonds to $500,000,000, raising the aggregate to $1,800,000,000.

A still heavier weight was put on prices by the coinage act of February 12, 1873, which dropped the silver dollar from the list of coins to be thereafter minted and made the gold dollar the "unit of value." From that time until the present the Treasury Department has construed the word "coin" to mean gold coin. The credit-strengthening act specially mentioned gold and silver coins as being both included in the word "coin;" and the funding act made our bonds payable in "coin of the present standard value." Up to the time of the new coinage law of 1873 all the people and all the public officers regarded gold and silver coin as the legal-tender coin of the country. This act put the business of the country on a gold basis, thus requiring of one metal that it should perform all the money functions that had been theretofore performed by two. Silver coins below a dollar in value had not been full legal tender since 1853; but they were in use in large amounts and they served all the purposes of money in the everyday trade of farmers and generally of people who did not need to use large amounts of money in any one transaction. Silver, at the ratio of 16 to 1, was at a premium of 3 per cent over gold when the act of 1873 was passed, and on that account they would not have circulated largely; hence, in all large transactions, gold was the more desirable. This fact served to render the effect of changing from a double basis to a single basis less disastrous than it would have been if there had been a much larger circulation of silver dollars than there was. The amount of silver and of gold coined from the establishment of the Mint in 1792 to 1839 is:

Gold coins, $14,415,820.20; silver coins, $53,344,731.90. From 1839 to 1891 the following table shows the aggregate yearly coinage of gold and silver coins:

Coinage of the U. S. Mints from 1840 to 1891, inclusive.

[From the report of the Director of the Mint.]

Calendar year.	Total coinage.		Calendar year.	Total coinage.	
	Gold.	Silver.		Gold.	Silver.
1840	$1,675,482.50	$1,726,703.00	1866	$31,435,945.00	$982,409.25
1841	1,091,857.50	1,132,750.00	1867	23,828,625.00	908,876.25
1842	1,829,407.50	2,332,750.00	1868	19,371,387.50	1,074,343.00
1843	8,108,797.50	3,834,750.00	1869	17,582,987.50	1,266,143.00
1844	5,427,670.06	2,235,550.00	1870	23,198,787.50	1,378,255.50
1845	3,756 447.50	1,873,200.00	1871	21,032,685.00	3,104,038.30
1846	4,034,177.50	2,558,580.00	1872	21,812,645.00	2,504,488.50
1847	20,202,325.00	2,374,450.00	1873	57,022,747.50	4,024,747.60
1848	3,775,512.50	2,040,050.00	1874	35,254,630.00	6,851,776.70
1849	9,007,761.50	2,114,950.00	1875	32,951,940.00	15,347,893.00
1850	31,981,738.50	1,866,100.00	1876	46,579,452.50	24,503,307.50
1851	62,614,492.50	774,397.00	1877	43,999,864.00	28,393,045.50
1852	56,846,187.50	999,410.00	1878	49,786,052.00	28,518,850.00
1853	39,377,909.00	9,077,571.00	1879	39,080,080.00	27,569,776.00
1854	25,915,962.50	8,619,270.00	1880	62,308,279.00	27,411,693.75
1855	29,387,968.00	3,501,245.00	1881	96,850,890.00	27,940,163.75
1856	36,857,768.50	5,142,240.00	1882	65,887,685.00	27,973,132.00
1857	32,214,040.00	5,478,760.00	1883	29,241,990.00	29,246,968.45
1858	22,938,413.50	8,495,370.00	1884	23,991,756.50	28,534,866.15
1859	14,780,570.00	3,284,450.00	1885	27,773,012.50	28,962,176.20
1860	23,473,654.00	2,259,390.00	1886	28,945,542.00	32,086,709.90
1861	83,395,530.00	3,783,740.00	1887	23,972,383.00	35,191,081.40
1862	20,875,997.50	1,252,516.50	1888	31,380,808.00	33,025,606.45
1863	22,445,482.00	809,267.80	1889	21,413,931.00	35,496,683.15
1864	20,081,415.00	609,917.10	1890	20,467,182.50	39,202,908.20
1865	28,295,107.50	691,005.00	1891	29,222,005.00	27,518,856.60

The full effect of the act of 1873 was not felt, however, for some years afterwards, and not until the new policy of the Government became established.

By the resumption act (January 14, 1875) the Secretary of the Treasury was authorized to sell bonds in exchange for coin "to the extent necessary to * * * redeem the legal-tender United States notes." It was provided in the law that all excess above $300,000,000 should be retired and replaced by national-bank notes, and the amount of legal tenders for circulation should be kept at $300,000,000. This limitation was removed by a law approved May 31, 1878, which provided that there should not be any further cancellation of legal-tender notes, but that when received by the Government they should be "reissued and paid out again and kept in circulation." The amount then outstanding was something over $346,000,000, which is the amount carried on the Treasury books now.

The Secretary of the Treasury, in pursuance of authority granted by the resumption act, proceeded to create a fund to redeem the legal-tender notes, which the credit-strengthening act declared would be redeemed in "coin," and which act further pledged the faith of the people of the United States "to make provision at the earliest practicable period for the redemption of the United States notes in coin." It was to carry out and make good that pledge that the resumption law was passed, and the Secretary was to redeem the notes in "coin." But the coin which he collected to serve as a redemption fund was all gold coin.

In 1876 a resolution passed both houses of Congress declaring that any Government obligation payable in coin might lawfully and properly be paid in gold and silver coin, either or both.

On the 28th day of February, 1878, the Senate and House of Representatives each passed, over the veto of the President, the bill to "authorize the coining of the standard silver dollar and to restore its legal-tender character." That law required the Secretary of the Treasury to purchase silver bullion—not less than $2,000,000 worth nor more than $4,000,000 worth—every month and coin it into standard silver dollars. The Secretary, in the exercise of the discretion allowed him under the law, kept close to the lowest figures, $2,000,000 a month. The average monthly purchase during the life of the act, something over twelve years, was $2,060,000. Had the Secretaries of the Treasury purchased the full amount of bullion authorized by the law, $4,000,000 worth, each month during the whole time the law was in force, the coinage would have been $375,000,000, in round numbers, more than it was. The amount actually coined was about 378,000,000 standard dollars, and the amount would have been 753,000,000 if the maximum authorized had been coined.

Prices had been steadily falling during the years from 1870 to 1878 and 1879. With the coinage of the silver money under the act of 1878 the national banks began to increase their circulation. Their outstanding notes on the 1st day of July, 1878, amounted to $324,514,284; on the same date in 1882 the amount was $358,742,034, an increase of $34,227,756, a yearly average of $8,556,937. This, with the silver coinage, gave an annual increase of the currency equal to about $31,000,000. From 1878 on to 1883–'84 prices rose rapidly and business generally revived.

On the 1st day of December, 1882, bank notes outstanding amounted to $362,544,328, and on the 1st day of November, 1891, the amount was $172,184,558, an aggregate withdrawal of circulation equal to $190,359,770, a yearly average of $21,151,085. Had the banks continued through these nine years increasing their circulation as fast as they had done from 1878 to 1882 they would have had $439,556,761 out on the 1st day of November, 1891, instead of $172,184,558, the amount reported. The difference is $267,372,203. The banks not only stopped increasing their circulation, but began with the year 1883 to retire what they had out at the rate of $21,151,085 a year, running over a period of nine years, when they reached the minimum allowed by law and no further withdrawals could be lawfully made. The reason for this rapid retirement of bank notes is stated by the Comptroller of the Currency in his report for 1890 to have been the greatly increased value of the bonds deposited as security for the notes. We quote:

> The high rate of premium commanded in the market by interest-bearing bonds of the United States, which are required to be deposited by these banks as security for their circulation, has rendered the issue of circulating notes, in most localities, unprofitable. Hence national banks now organizing issue only so much of circulation as is obligatory under the law.—[See Report on the Finances, 1890, p. 369.

This does not mean what bankers claim—that they can make no profit on their notes, because they are entitled, under the law, to lend their own money the same as they lend other people's money to their patrons at whatever rates of interest are allowed in the State where they are located. They receive on their bonds deposited whatever rates the bonds bear, and, in addition thereto, legal rates of interest on their circulating notes. From this must be deducted 1 per cent per annum on the amount of their notes as a tax to the Government.

The lowest rate of interest on the bonds is 4 per cent—that, then, gives to the banks 4 per cent on all the bonds they deposit as security for their notes, and the interest is paid semiannually; frequently it is anticipated and paid long before it is due. On these bonds 90 per cent of their face value is issued to the banks in notes to be circulated as money by them, and on these they are permitted to charge interest at the rates allowed in the States where they do business, which ranges from 5 per cent in Louisiana to an unlimited rate in some of the States. It is fair to put the average rate charged and received by banks throughout the country at 10 per cent per annum. Ten per cent on 90 per cent is equal to 9 per cent on 100. The 4 per cent bonds being the bankers' investment for circulation, they therefore receive an average of 4 per cent on their bonds and 10 per cent on their notes, equal to 13 per cent on both. Surely this is not a losing business. The average gross income of the average farmer of the United States in 1880 was $552. His net income was little, if any, over $300. The average farm was worth $2,500. Interest is all clear gain to the owner of the money lent; it is net profit to him. It costs him nothing. When the net increase of the permanent wealth of the country is but little more than 3 per cent compounded yearly, banking at 13 per cent ought not to be adjudged profitless.

But there is another and more forcible reason why the banks retired their circulation so largely. The Comptroller of the Currency, in the first line of the paragraph from which the language above quoted was taken, explains the situation. He says: "The deposits of a national bank are now its principal source of profit." In the next paragraph he adds: "Hence national banks now organizing issue only so much of circulation as is obligatory under the law."

When the change from State banks to national banks was begun time was required to secure public confidence. Six per cent Government bonds cost but about 60 cents on the dollar, and bank loans were high. It was not only necessary, but very profitable, for the banks to issue a large circulation in proportion to their capital. But after the banks had secured public confidence, and, after bonds became more valuable and deposits greatly increased, it was more profitable to retire their own notes and bank on their deposits—the funds of their customers. On the 1st day of January, 1866, when the new system was but little over two years old, the capital of all the national banks was $403,357,346, and their deposits amounted to $520,212,174. On the 2d day of October, 1890, the capital had increased to $650,447,235, and the individual deposits amounted to $1,564,845,275. During the interval the capital stock had grown 61 per cent and the deposits had grown over 200 per cent—nearly four times as fast as the capital.

The title of the national-bank act shows that the law intended to provide a national currency; that is, to provide and maintain a safe and sufficient currency equally valuable and equally available in all parts of the country. The new system was to be a national system: hence the banks were to be called national banks. It is only because they were made national institutions, and their notes were made secure by a pledge of Government credit, that the national banks became popular and grew in public confidence. But as soon as bonds rose to a high premium and deposits grew to great amounts the notes were retired to the minimum required by law, and this without respect to the public convenience.

On the 2d day of October, 1890, the bank notes out and for which the banks were responsible was $125,176,956. (There was more than this in circulation by $56,403,554, but this last-named amount was in process of retirement and an equal amount of legal-tender notes had been deposited in the Treasury to redeem the bank notes as fast as they reached the Treasury.) The amount of bank notes for which the banks were responsible at that time was, as above stated (and these are the figures given by the Comptroller), $125,176,956. If the banks had kept their circulation up with their capital, as the people had a right to expect they would do, their circulation on the day last above named would have been $585,402,512, or $460,225,556 more than it actually was.

An institution thus put in charge of the people's finances, with power to increase and diminish the amount of their available money at will, is dangerous in the extreme. The most rapid decline and the lowest fall of prices known in our history took place during the years the banks have been withdrawing their notes from circulation. Had it not been for the coinage of silver under the act of 1878, there would have been nothing to even partially set-off the injury which this rapid contraction of the paper money volume would have inflicted on the country. Prices rose while the banks increased their circulation; prices fell when the banks diminished their circulation. Are the values of our property and the profits of our industry to be subject to the interests of the banks?

The following tables show the movement of prices of corn, wheat, flour, and pork from 1868 to 1890—downward during the years of contraction of Government paper—upward during the expansion of bank note circulation—downward during the contraction of bank paper.

Annual average export prices of corn, wheat, and wheat flour for each year from 1868 to 1891, inclusive.

Year ending June 30—	Corn per bushel.	Wheat per bushel.	Wheat flour per barrel.	Year ending June 30—	Corn per bushel.	Wheat per bushel.	Wheat flour per barrel.
1868	$1.175	$1.90	$10.07	1880	$0.543	$1.25	$5.88
1869	.968	1.39	7.74	1881	.552	1.11	5.67
1870	.925	1.29	6.11	1882	.668	1.19	6.15
1871	.759	1.32	6.59	1883	.684	1.13	5.96
1872	.695	1.47	7.11	1884	.611	1.07	5.59
1873	.618	1.31	7.57	1885	.540	.86	4.90
1874	.719	1.43	7.14	1886	.498	.87	4.70
1875	.848	1.12	5.97	1887	.479	.89	4.51
1876	.672	1.24	6.22	1888	.550	.85	4.58
1877	.587	1.17	6.49	1889	.474	.90	4.83
1878	.562	1.34	6.36	1890	.418	.83	4.66
1879	.471	1.07	5.25	1891	.574	.93	4.82

Annual average prices per barrel of mess pork in the New York market for each year from 1868 to 1891, inclusive.

Year.	Average price.	Year.	Average price.
1868	$26.52	1880	$13.23
1869	31.64	1881	16.94
1870	26.88	1882	19.79
1871	16.46	1883	16.59
1872	13.61	1884	16.48
1873	16.36	1885	11.58
1874	19.16	1886	10.63
1875	21.13	1887	15.00
1876	19.63	1888	15.10
1877	14.76	1889	12.57
1878	9.77	1890	12.13
1879	9.88	1891	11.38

In 1890, another attempt was made to increase the circulation by providing for the free and unlimited coinage of silver, but the bill was defeated by a compromise which provided that the Secretary of the Treasury should purchase 4,500,000 ounces of silver bullion every month and pay for it with treasury notes payable in coin, and he was required to coin as much of the bullion as should be necessary to redeem the notes. This redemption clause was modified by the words following: "it being the established policy of the United States to maintain the parity between the two metals at the present legal ratio or such ratio as may be established by law." This modification has been construed by the Treasury officials to require the redemption of the notes in gold coin. Every one of the notes paid out for silver bullion, that has been redeemed was redeemed with gold coin. The Treasurer of the United States, in his report for 1893, states that from December, 1892, to June, 1893, a total of upwards of $29,000,000 of gold was drawn out of the Treasury in redemption of notes paid out for silver bullion purchased under the act of 1890, and this gold was all exported.

The total amount of these notes outstanding when the act of 1890 was repealed was about $153,000,000, all of which, according to the rule adopted by the Secretary of the Treasury is to be redeemed with gold. The effect of this construction is to make gold the sole coin of final payment; and although silver, and United States notes, and Treasury notes, and bank notes and silver certificates all pass current among the people at large, bankers, brokers, and speculator are paid in gold, even though it be known that the gold is to be sent out of the country.

This construction has the effect to make all other kinds of money merely subsidiary to gold. The value of national-bank notes out is about $208,000,000; Treasury notes amount to about $153,000,000, and United States notes (greenbacks) is stated to be $346,000,000, making a total of over $707,000,000 redeemable in gold, and the Treasury reserve is now below $75,000,000. This is not all. Most of our silver dollars are locked up in the Treasury, they are represented by certificates which are circulating among the people as money, and there are $328,000,000 worth of them out; but they are not money; they are not legal tender for any amount; they can not be used in payment of debt if the creditor refuses to accept them. They are only certificates—exactly like a warehouse certificate, which certifies that a certain thing or number of thing has been deposited in a certain warehouse. The silver certificate certifies that one or more silver dollars have been deposited in the U. S. Treasury deliverable to bearer. With these $328,000,000 silver certificates we have $1,035,000,000 of paper resting on $75,000,000 gold coin.

The silver certificate is not lawful money, nor is the national-bank note, nor is the Treasury note if the contract specifies another kind of currency, and the greenback will not pay interest on the public debt nor duties on imports if refused in either case. Silver dollars are full legal tender, but they are discredited by the Government and by the men who deal in money as they deal in wheat and cotton. There is in fact then only one fully equipped money in the country, and that is gold coin, and what gold we have is made a foot ball in the money market. A nation of near 70,000,000 people with an estimated capital of $70,000,000,000 worth of property and nearly half the railway mileage of the world, having only $75,000,000 in full legal-tender money as a basis on which to transact a business greater than the foreign commerce of all the other nations of the world combined, and that subject to the ambitions, whims and personal interests of a few hundred speculators, is not an encouraging outlook, it is not a price restorer.

It is claimed by the Treasury Department that there is more money—more per capita and more in proportion to the business done—now than ever before. But the statement can be maintained only by ignoring plain facts that were undisputed before the new system became firmly established. The last statement we have seen is that sent out by the Treasury Department showing the stocks of money on hand and in circulation December 1, 1893, as follows:

	General stock, coined or issued.	In Treasury.	Amount in circulation, Dec. 1, 1893.	Amount in circulation, Dec. 1, 1892.
Gold coin	$575,269,517.00	$70,211,506.00	$505,058,011.00	$410,367,863.00
Standard silver dollars	419,332,550.00	360,906,628.00	58,425,922.00	62,580,806.00
Subsidiary silver	76,960,353.00	11,418,708.00	65,541,645.00	66,515,135.00
Gold certificates	78,312,169.00	149,090.00	78,163,079.00	123,188,809.00
Silver certificates	334,138,504.00	5,716,507.00	328,421,997.00	323,464,833.00
Treasury notes, act July 14, 1890	153,453,629.00	2,683,223.00	150,770,406.00	118,877,559.00
United States notes	346,681,016.00	35,412,344.00	311,268,672.00	333,772,877.00
Currency certificates, act June 8, 1872	33,325,000.00	120,000.00	33,205,000.00	8,230,000.00
National-bank notes	208,948,105.00	12,808,547.00	196,139,558.00	167,786,384.00
Total	2,226,420,843.00	499,426,553.00	1,726,994,290.00	1,614,790,266.00

Population of the United States December 1, 1893, estimated at 67,547,000; circulation per capita $25.57.

This assumes that all the money in the country outside the Treasury is in circulation, but that is far from being true. The national banks, on the 9th day of December, 1893, held $513,910,270 as reserves. This amount alone would reduce the amount of money reported to be in circulation to $1,213,084,020. The "cash on hand" held by banks other than national at the close of the fiscal year 1893 was reported to be $205,645,203. This reduces the amount to a little over $1,000,000,000; and then, if we consider the amounts probably held in State, county, and city treasuries, we shall find the amount of money actually in circulation less than half what the Treasury circular statesthe amount outside the Treasury to be.

However, assuming all this money to be in circulation, the per capita, $25.57, is less than half the circulation at the close of the war, which was a little more than $52. This, of course, includes all the different classes of Government paper used as currency. Some persons object to including the seven-thirties in the currency. To accommodate them we may omit the seven-thirties and then have left a volume of money circulation in 1865 amounting to $1,180,197,147, equal to a per capita circulating of $34, which is $9 more than we now have, allowing nothing for over-estimate and conceding that all the money outside the Treasury is in circulation.

Our present financial methods insure practical control of the circulating medium to the moneyed interests. This is seen in the small amount of gold in actual circulation among the people. In 1890 an account was kept of all moneys paid into all the national banks of the United States on each of two days—July 1 and September 17. For the former date 3,364 banks reported receipts amounting to $421,824,726; for the latter date 3,474 banks reported receipts amounting to $327,278,251. On the first day the amount of gold coin paid in was less than 1 per cent of the whole (·89); on the second the gold receipts were a little over 1 per cent of the whole (1·13). By consolidating all the different classes of money paid in on both days we find that of the total receipts only 8·96 per cent was in cash and 91·04 per cent in checks, drafts, and other forms of substitutes for money. The cash was composed of gold, 1 per cent; silver, ·38 per cent; and the rest was made up of paper money of different classes.

It thus appears that while gold coin is the basis of our monetary system and prices of all commodities are regulated on this basis, yet gold coin supplies but 1 per cent of our circulating medium. It further appears that paper money, as silver certificates, United States notes, Treasury notes, national-bank notes, Treasury certificates, etc., supply only a little over 6 per cent of the money in actual circulation, and nearly 92 per cent of the people's money transactions is conducted by means of subsitutes for money—individual paper, notes, checks, drafts, bills, etc. This explains the reason of widespread disaster when a panic is started. So much business is done on credit that everybody is affected by a "run" on the banks. But the men at the head of the moneyed interests are doing business on a gold basis. Their bonds, though payable in "coin," are to be paid in gold coin; their contracts are made on a gold platform; their notes and mortgages are drawn payable in gold coin. Even if care were not taken to make none but gold contracts, our laws are so framed or construed that gold is the ultimate tender in any event.

As before shown none of our paper money is full legal tender, and greenback and Treasury notes are being redeemed in gold.

A gold basis means final payment in gold coin only, and as that is growing comparatively scarcer year by year, with corresponding influence on prices, a gold basis has the same effect on the market value of farm products that would be produced by adding to the pound weight. Gold is about 40 per cent above the general level of prices as compared with twenty years ago.

The following table gives in parallel columns for the years 1874–1892 the index numbers for 45 commodities:

Mr. Sauerbeck's index numbers.

Year.	Index numbers of 45 principal commodities.	Year.	Index numbers of 45 principal commodities.	Year.	Index numbers of 45 principal commodities.
1874	102	1881	85	1888	70
1875	96	1882	84	1889	72
1876	95	1883	82	1890	72
1877	94	1884	76	1891	72
1878	87	1885	72	1892	68
1879	83	1886	69		
1880	88	1887	68		

The table is made to represent the average value, by years, of 45 different articles of daily consumption among the people of Great Britain. Their average value in 1874 is represented by the figures 102, called the index number, and that is the basis of comparison for the years following. It appears that there has been a decline in nineteen years from 102 to 68, which is 33⅓ per cent. This is equivalent to adding 20 pounds to a bushel of wheat; so that if a dollar would have purchased 1 bushel of wheat in 1873, the same amount of money would have paid for a bushel and one-third of a bushel more in 1892.

Here is a table, American computation, showing average prices yearly of wheat, cotton, and silver, to which is added Mr. Sauerbeck's figures, above given, and his estimate of yearly prices of silver by the ounce, starting in 1872 with the index number 99·2 as basis for comparison.

Year.	American computation, price of—			European computation—Mr. Sauerbeck's index numbers.	
	Silver.	Wheat.	Cotton.	Index number of 45 principal commodities.	Index number of silver.
			Cents.		
1872	$1.32	$1.47	19·3	....	99·2
1873	1.29	1.31	18·8	....	97·4
1874	1.27	1.43	15·4	102	95·8
1875	1.24	1.12	15·0	96	93·3
1876	1.15	1.24	12·9	95	86·7
1877	1.20	1.17	11·8	94	90·2
1878	1.15	1.34	11·1	87	86·4
1879	1.12	1.07	9·9	83	84·2
1880	1.14	1.25	11·5	88	85·9
1881	1.13	1.11	11·4	85	85·0
1882	1.13	1.19	11·4	84	84·9
1883	1.11	1.13	10·8	82	83·1
1884	1.01	1.07	10·5	76	83·3
1885	1.06	.86	10·6	72	79·9
1886	.99	.87	9·9	69	74·6
1887	.97	.89	9·5	68	73·3
1888	.93	.85	9·8	70	70·4
1889	.93	.90	9·9	72	70·2
1890	1.04	.83	10·1	72	78·4
1891	.90	.85	10·0	72	74·1
1892	.86	.80	8·7	68	65·4
1893	.75	*.68	7·2	....	....

* Average farm value of wheat for the calendar year 1893 is 53·8 cents.

By this table it appears that silver fell from $1.32 an ounce in 1872 to 75 cents an ounce in 1893, a fall equal to 43 per cent; that wheat fell from $1.47 a bushel in 1872, to 68 cents in 1892, a drop of 53 per cent; and cotton declined from 19.3 cents to 7.2 cents, equal to 60 per cent.

According to these figures $100 in gold in 1872 would have paid for 68 bushels of wheat; in 1893 the same amount of the same kind of money would have paid for 147 bushels. In other words, $100 in 1893 paid for 79 bushels of wheat more than it would have paid for in 1872. To get $100 in 1872 the farmer gave only 68 bushels of wheat, and in 1893 he had to give 147 bushels for the same amount of money, which is equivalent to adding 31 pounds to a bushel of wheat without increasing the price.

It may be well to state here that the discrepancies which are apparent in the different tables presented relating to the same matter are to be accounted for by the different points of observation from which the statistician viewed his subject. In one place, for example, it is the farm price of wheat that is given, and that varies in different months, so that averages may differ when the whole year or part of a year is taken; in another place the averages may be taken on Chicago prices, or New York prices, or export prices, and so on. And sometimes the calendar year is taken; at another time it is the fiscal year. The one great fact that stands out prominently in all the tables is a general decline of prices since 1873.

The following table shows how many bushels of wheat $100 paid for on the general average for the years mentioned and the number of dollars 100 bushels of wheat would buy in the same years. The prices are those given in tables of the Department of Agriculture, hereinbefore given:

Year.	Number of bushels of wheat for $100.	Number of dollars for 100 bushels of wheat.	Year.	Number of bushels of wheat for $100.	Number of dollars for 100 bushels of wheat.	Year.	Number of bushels of wheat for $100.	Number of dollars for 100 bushels of wheat.
1870	95·98	$104.20	1878	128·57	$77.70	1886	145·56	$68.70
1871	79·49	125.80	1879	90·25	110.80	1887	146·84	68.10
1872	80·64	124.00	1880	105·15	95.10	1888	114·54	87.30
1873	86·96	115.00	1881	83·82	119.30	1889	143·27	69.80
1874	106·27	94.10	1882	113·12	88.40	1890	119·33	83.80
1875	100	100.00	1883	109·89	91.00	1891	119·19	83.90
1876	96·99	103.10	1884	153·85	65.00	1892	160·25	62.40
1877	92·41	108.20	1885	129·87	77.00			

From these figures the decline of wheat values from 1870 to 1892 was 40 per cent, which is the same thing to farmers as adding 40 cents to $1, and making it $1.40 instead of $1. He must buy $1.40 with his products, but he gets only $1 and not $1.40.

Whether the value of gold is advancing, or whether the value of other property is receding, we need not here undertake to determine, further than to express the opinion that both propositions are true. There are many things tending to depress prices as we have shown, but that these causes have been sufficient to account for all or even the greater proportion of the apparent decline we do not believe. On the other hand, the demand for gold in the arts is increasing yearly to an extent which now absorbs about as much of the metals as the mines produce, so that the quantity for use as money becomes relatively scarcer and therefore more valuable as population and business increase; and the Government has virtually turned the management of our financial affairs over to bankers and brokers of New York whose interests are best served by maintaining a gold basis. All values are measured by gold, and as that grows more valuable, prices of other commodities must fall correspondingly. Everything is made to play around gold as the center, as if it were the equivalent of all values, whereas, in truth, all the gold coin in use among all men on earth is not equal, even according to its money value, to one-twentieth part of the property of the people of the United States alone, and is not equal to one-fiftieth part of the money and substitutes for money used by our people in one year. All of the vast business of this mighty people is based on $100,000,000 in gold in the Treasury held to redeem outstanding notes, and that fund is now, February 9, 1894, reduced to $65,000,000. Silver is not counted as any part of the final redemption fund. A new set of gold bonds has just been issued amounting to $50,000,000, for which offers were made before notice of the proposition was published.

By referring to the table above presented it will be seen that silver in the bullion form has fallen in price along with wheat and cotton and with other articles of necessity. When silver is at par with gold at the present legal ratio of 16 to 1, an ounce of silver bullion is worth $1.29¼. In 1872 and 1873 it was worth $1.32, or 3 cents above par. Since that time it has fallen about as fast as other articles. An ounce of silver bullion would buy as much wheat or cotton in 1893 as it did in 1873. Silver coined is worth as much as gold coined, dollar for dollar; but silver bullion has no protection of law as gold has. It must seek its level among other commodities that are sold and bought in the open market. The price of gold is maintained by the law granting it free and unlimited coinage at the rate of 25·8 grains standard to the dollar, while silver has been denied that privilege since 1873. Silver bullion has been purchased in the open market by the Government for its mints the same as it purchases corn for use in the Army. Had gold been treated in the same manner, who knows that its market value would not have fallen further than silver has done?

Our financial legislation ever since the great war began has tended to the final culmination enacted last October, in repealing the only statute which authorized the coinage of silver dollars. At last we are absolutely on a gold basis and the Secretary of the Treasury is compelled to buy gold from speculators while there is $138,000,000 worth of silver coin and bullion in the Treasury, not including silver dollars covered by certificates.

As prices have declined the value of credits advanced, and it became more and more difficult for farmers to meet their pecuniary obligations. A dollar grew larger as a bushel of wheat grew smaller—a dollar of debt required more wheat to pay it. So, taxes, interest, insurance, and the many little home demands have grown more and more burdensome. Ten per cent interest twenty years ago was no higher (in effect) than 6 per cent is now, for then property out of which interest had to be paid was 40 per cent higher than it is now. But rates of interest have not fallen on old debts. Property purchased at prices then prevailing had to be paid for with proceeds of property whose values were constantly falling. A farm bought for $5,000 with deferred payments at 10 per cent interest payable semiannually had to be paid for according to the terms of the contract, notwithstanding the value of the farm soon fell to $4,000 and wheat in equal proportion, with like conditions ahead.

From 1880 to 1890 an immense indebtedness was incurred by the farmers of the United States, and a large part of it was in renewal of obligations incurred years before. This was simply moving their old debts ahead—the same principal, the same interest. The aggregate debt of farmers still due on the 1st day of January, 1890, though the reports are not all tabulated, was about $2,250,000,000.

We herewith present a statement of the number of farms in the United States in 1890, excluding those of the Dakotas, which had not been tabulated when this report was made.

Number of farms reported for the Eleventh Census, by enumerators, June 1, 1890.

States.	Number of farms.	States.	Number of farms.
Alabama	157, 772	Nebraska	113, 608
Arizona	1, 426	Nevada	1, 277
Arkansas	124, 760	New Hampshire	29, 151
California	52, 894	New Jersey	30, 828
Colorado	16, 389	New Mexico	4, 458
Connecticut	26, 850	New York	226, 223
Delaware	9, 381	North Carolina	178, 359
District of Columbia	382	Ohio	251, 430
Florida	34, 228	Oklahoma	8, 826
Georgia	171, 071	Oregon	25, 530
Idaho	6, 603	Pennsylvania	211, 557
Illinois	240, 681	Rhode Island	5, 500
Indiana	198, 167	South Carolina	115, 008
Iowa	201, 903	Tennessee	174, 412
Kansas	166, 617	Texas	228, 126
Kentucky	179, 264	Utah	10, 517
Louisiana	69, 294	Vermont	32, 573
Maine	62, 013	Virginia	127, 600
Maryland	40, 798	Washington	18. 056
Massachusetts	34, 374	West Virginia	72, 773
Michigan	172, 344	Wisconsin	146. 409
Minnesota	116, 851	Wyoming	3, 125
Mississippi	144, 318		
Missouri	238, 043	Total	4, 592, 873
Montana	5, 603		

The following statement shows the value of farms in the United States, excluding Indiana and the Dakotas, for which States the farm values had not been tabulated when this statement was prepared:

Farm values by States.

States.	Total value of farms, including land, fences, and buildings.	States.	Total value of farms, including land, fences, and buildings.
Alabama	$111, 051, 390	Nebraska	$402, 358, 913
Arizona	7, 222, 230	Nevada	12, 339, 410
Arkansas	118, 574, 422	New Hampshire	66, 162, 600
California	697, 116, 630	New Jersey	159, 262, 840
Colorado	85, 035, 180	New Mexico	8, 140, 800
Connecticut	95, 000, 595	New York	968, 127, 286
Delaware	39, 586, 080	North Carolina	183, 977, 010
District of Columbia	6, 471, 120	Ohio	1, 046, 738, 247
Florida	72, 745, 180	Oklahoma	8, 581, 170
Georgia	152, 006, 230	Oregon	115, 819, 200
Idaho	17, 431, 580	Pennsylvania	922, 240, 233
Illinois	1, 262, 870, 587	Rhode Island	21, 873, 479
Iowa	857, 581, 022	South Carolina	99, 104, 600
Kansas	559, 726, 046	Tennessee	242, 700, 540
Kentucky	346, 339, 360	Texas	399, 971, 289
Louisiana	85, 381, 270	Utah	28, 402, 780
Maine	98, 567, 730	Vermont	80, 427, 490
Maryland	175, 058, 550	Virginia	254, 490, 600
Massachusetts	127, 538, 284	Washington	83, 461, 660
Michigan	556, 190, 670	West Virginia	151, 880, 300
Minnesota	340, 059, 470	Wisconsin	477, 524, 507
Mississippi	127, 423, 157	Wyoming	14, 460, 880
Missouri	625, 858, 361		
Montana	25, 512, 340	Total value	12, 338, 393, 318

The reports are not yet all ready for publication, but the following statement shows the amount of debts on lands and town lots in the States named, due January 1, 1890:

Real estate mortgage debt in force and per capita January 1, 1890, by States and Territories.

States and Territories.	Total.	On acres.	On lots.	Per capita debt.
Total for States and Territories	$5, 832, 493, 204	$2, 127, 626, 449	$3, 704, 866, 755	$101
Alabama	39, 027, 983	28, 762, 387	10, 265, 596	26
Alaska	......	......	......	......
Arizona	2, 348, 519	1, 580, 301	768, 218	39
Arkansas	14, 366, 595	9, 051, 117	5, 315, 478	13
California	241, 050, 181	120, 890, 877	120, 159, 304	200
Colorado	85, 058, 793	30, 195, 056	54, 863, 737	206
Connecticut	79, 921, 071	13, 176, 736	66, 744, 335	107
Delaware	16, 122, 696	5, 649, 705	10, 472, 991	96
District of Columbia	51, 986, 589	2, 226, 277	49, 760, 312	226
Florida	15, 505, 119	10, 629, 142	4, 875, 977	40
Georgia	27, 387, 590	16, 969, 687	10, 417, 903	15
Idaho	3, 167, 249	2, 811, 130	356, 119	38
Illinois	384, 299, 150	165, 289, 112	219, 010, 038	100
Indiana	110, 730, 643	74, 553, 217	36, 177, 426	51
Iowa	199, 774, 171	149, 457, 144	50, 317, 027	104
Kansas	243, 146, 826	174, 720, 071	68, 426, 755	170
Kentucky	45, 693, 749	23, 779, 911	21, 913, 838	25
Louisiana	28, 513, 909	15, 750, 153	12, 763, 756	25
Maine	32, 627, 208	14, 150, 646	18, 476, 562	49
Maryland	64, 577, 803	27, 828, 999	36, 748, 804	62
Massachusetts	323, 277, 668	42, 441, 247	280, 836, 421	144
Michigan	150, 472, 700	95, 753, 329	54, 719, 371	72
Minnesota	197, 745, 989	75, 355, 562	122, 390, 427	152
Mississippi	18, 226, 436	15, 055, 704	3, 170, 732	14
Missouri	214, 609, 772	101, 718, 625	112, 891, 147	80
Montana	8, 729, 907	5, 094, 329	3, 635, 578	66
Nebraska	132, 902, 322	90, 506, 968	42, 395, 354	126

Real estate mortgage debt in force and per capita January 1, 1890, etc.—Continued.

States and Territories.	Total.	On acres.	On lots.	Per capita debt.
Nevada	$2, 194, 995	$1, 836, 655	$358, 340	$48
New Hampshire	18, 968, 259	9. 430, 540	9, 537, 719	50
New Jersey	232. 565, 919	54, 025, 990	178, 539, 929	161
New Mexico	6, 644, 673	5. 839, 416	805, 257	43
New York	1, 607, 874, 301	217, 813, 055	1, 390, 061, 246	268
North Carolina	21, 471, 428	14, 537, 449	6, 933, 979	13
North Dakota	25, 777. 101	22, 097, 713	3, 679. 388	141
Ohio	259, 842, 188	134, 107, 706	125, 734, 482	71
Oklahoma				
Oregon	22, 928, 437	15, 983, 361	6, 945, 076	73
Pennsylvania	613, 105, 802	172, 037, 488	441, 068, 314	117
Rhode Island	36, 778. 243	5, 262. 243	31, 516. 000	106
South Carolina	13. 780, 302	9, 060. 351	4, 719, 951	12
South Dakota	36, 115, 773	29, 356, 865	6, 758, 908	110
Tennessee	40, 421, 396	16, 425, 144	23, 996, 252	23
Texas				
Utah	8, 040, 829	2, 426, 018	5, 614, 811	39
Vermont	27, 907, 687	19, 439, 988	8, 467, 699	84
Virginia				
Washington				
West Virginia				
Wisconsin	121, 838, 168	81, 535, 361	40. 302, 807	72
Wyoming	4, 967, 065	3, 013, 674	1, 953, 391	82

The Superintendent of the Census estimates the aggregate debt on acres (lands outside of towns and cities) at about $2,250,000,000, which is more than one-half of the taxable value of all the farms in the country, assessing them at one-third their estimated value, which is the usual basis for loans. The average rate of interest payable on this farm indebtedness is about 7 per cent, payable semiannually. Including commissions and other incidental expenses, the cost to the borrower is not less, in the aggregate, than 8 per cent a year. At that rate the annual interest charge on the debt is $180,000,000, which is equal to an average yearly interest charge of $80 on each of one-half the farms in the United States, estimating the whole number to be 5,000,000. This interest burden had its effect in depressing farm values. One Pennsylvania farmer, whose letter will be found in the appendix to this report, wrote: "If interest were reduced to a level with prices of farm products we would not complain." When farmers did all their own work, grew the fibers for their clothing, and made it into cloth and clothing, and when they made most of their farm implements they paid 6 per cent interest, and in most cases saved their lands. But things have so changed that the best investment, that which represents the net increase of the country's permanent wealth—Government bonds—pays only 3 per cent. Even less than that accrues to the purchaser of 4 per cent bonds at 20 per cent premium.

Interest in one form or another is the channel through which wealth is transferred from the masses who produce it to the classes who produce nothing. We have just discussed one form—the most insidious form of all, perhaps—of absorption of wealth by people who "live by their wits," namely, the changing from a double basis to a single basis for the money of the country. Now, we are to consider that form of absorption known as interest or a charge for the use of money.

If we take the record of any people and note the rate at which their annual savings accumulate we shall find it to be much less than the rate of interest on money; and if we omit from the calculation the rise in the value of property that comes by reason of increased population and from advances in civilization permanent wealth increases very slowly. Our Government was organized but little more than a hundred years ago. Since that time we acquired another region which we now own west of the Mississippi River, besides Florida on the east. Our territorial area has been increased 400 per cent; our population has been multiplied 16 times; our wealth is now 50 times what it was in 1790; yet with all our progress, our growth and development, our annual savings as seen in our permanent wealth—the property visible to the assessor—our lands and their improvements, our personal property carried over from year to year, and including all rise of value by reason of surrounding improvements, and including all our acquisitions of territory, our net increase of permanent taxable wealth has but little exceeded 3 per cent per annum compounded yearly.

The same conclusion is reached if we examine the history of any one of the old States. Take the richest of them—Massachusetts, New York, and Pennsylvania; ascertain the value of the taxable property in each of them in 1790 and find the amount of that sum at 3 per cent compound interest one hundred years—down to 1890, and we shall find the amount to about equal the reported valuation in the late census. At 6 per cent the amount is many times greater than the present valuation.

The taxable property in Pennsylvania in 1860 was reported at $1,416,510,818. The legal rate of interest in that State is 6 per cent. If a sum of money equal to the State's value in 1860 had been put at interest that year at 3 per cent per annum, compounded annually until 1890, the gain would have been $823,783,060 more than the people of Pennsylvania saved by all their labor in those thirty years.

In 1845 the taxable property in the State of New York was assessed at $530,653,524. In 1890 it had increased to $3,755,325,938. The legal rate of interest of New York is 6 per cent. At 6 per cent compounded annually the value of the property in New York in 1845, if put at interest at 6 per cent, would have amounted to $12,941,316,975 in 1890, or nearly four times as much as the people saved in those forty-five years. At 3½ per cent the amount would have been $332,871,642 more than was actually saved by all the labor of the whole people.

In 1790 the assessed valuation of all the property in Massachusetts was $44,024,349. In one hundred years the valuation had grown to $2,154,134,626; that is to say, in one hundred years the people of Massachusetts increased the value of their property from $44,024,349 to $2,154,134,626; they gained and saved the difference between those two amounts, or a clear saving of $2,110,110,277. If the value of the State in 1790 had been put at interest at 6 per cent compounded annually on down to 1890—one hundred years—the amount would have been $14,937,461,615, or more than 7 times as much as the people saved during those one hundred years.

If we take the whole country we find that the rate of gain and saving has been about 3 per cent—a little over that. The taxable value of all the property in the country in 1790 was $619,977,247, and in 1890 it was $24,249,589,804. The gain was $23,629,612,537. At 6 per cent compounded annually $619,977,247 would amount to $210,358,279,907 in one hundred years, which is $186,108,690,103 more than we saved in one hundred years of the most rapid growth and most wonderful development in all recorded history.

Our savings increase at the rate of a little more than 3 per cent, and that includes rise in land, values which we do not produce by our labor, while we are compelled by law to pay 6 per cent to 12 per cent and upward for the use of borrowed money. This explains how property is acquired without labor by persons who have control of money. The law prescribes the rate of charge for the use of money, but it does not provide what may be charged for the use of any other kind of property.

Hurtful as is the interest drain when other conditions are normal, its bad effect is greatly intensified when the business of the people is brought from a bimetallic basis to a monometallic basis, transferring the money functions from two metals to one metal, thus lessening the quantity and increasing the value of the metal in the basic coin.

And with this transfer of the money function goes much of the reserved power of the people through a depreciation of the value of their property and consequent diminution of their ability to pay their debts. Everything lost by the debtor is gained by the creditor, except only such values as are utterly lost in the general wreck. And in that case, though both parties lose, the creditor's power over the debtor remains practically the same. The business of the world is to-day controlled by a few men in each nation, made powerful by their wealth. Every year the number of homeless people increases. Renters on farms now number about one third of the farming population, and in the great cities from 60 to 75 per cent of the people who "keep house" live in rented buildings. The indebtedness of persons who live in cities of the United States is much larger than that of the farmers. The real estate in large towns and cities is fast coming under the ownership of landlords who let the premises out to renters who pay 10 to 15 per cent on property valuation. Much of the real estate indebtednesss in the cities is incurred in the purchase of property to rent. This still further increases the power of the speculating class, and in effect diminishes the ability of renters to pay for home supplies. In fact a very small number of men have control of nearly all the property in the country. Nine per cent of the families own 71 per cent of the wealth of the country. It is estimated by careful economists that 4,047 families of the United States own one-fifth of the nation's wealth, and that 11,593,887 families own not more than one-third of it. Under such circumstances it is impracticable to maintain prices of farm products on a high level. The ability of poor people to buy is yearly less and less.

In the transaction of the people's business there are now nearly 9,000 banks employed—3,781 national banks and 5,024 State banks of different classes. Each of these has a corps of officers and assistants at work on salaries which must be paid out of the profits on the business, and the profits come from interest on money lent—interest in one form or other. And every one of these 8,805 banks is conducted on lines laid down by the great banks at the money centers. This must be so; not that methods are prescribed for the country banks, but that by the laws of business and in the nature of the case, the smaller institutions move in grooves made by the big concerns. They are all engaged in the same business—collecting interest. Logically they are governed by the same rules, and quite as logically the rules are those followed by men at the head of the business.

The amount of interest collected by these banks in one year is almost beyond comprehension. From the report of the Comptroller of the Currency for 1893 it appears that the loans of the national banks during the year amounted to $1,843,600,000. Placing the time of the average loan at thirty days, and allowing an average of 1 per cent on each loan (12 per cent a year), we have $221,232,000 paid into the banks as interest. If the State banks did half this much the total interest account would stand at $331,848,000. And this is wholly exclusive of interest on the farm and home debts which are secured by mortgage on the lands and lots.

Then we have to consider the indebtedness of States, counties, cities, townships, school districts, railways, industrial organizations, etc., all of which bear interest at high rates—the bonds usually running a long time. The national, State, municipal, corporate and individual indebtedness of the people of the United States as shown by the late national census, and careful estimates of prudent statisticians, is at least $18,000,000,000.

This indebtedness must all be paid out of the earnings of the people who produce property; it comes out of the profits on productive labor after supplying the necessities of the workers. Debt affects price, it increases the power and influence of the creditor. All this vast aggregate is to be paid to somebody—to whom? Who owns all this mass of debt for which the property of the country is mortgaged and which may be collected under the sheriff's hammer or at the point of the soldier's bayonet. Tell us who owns the debt, and we will show you the rulers of the world. They are men whose business interests largely regulate prices of farm products and of all other commodities.

REMEDIES.

If we have been reasonably accurate in our diagnosis of the agricultural situation, the way is clear to suggest means for relief.

It must not be assumed, however, that every phase of the depression can be removed, or that everything to which we have attributed part of the work in depressing prices can be changed. On the contrary, many of the operating agencies to which we have called attention are but the machinery through which varied processes of advancing civilization are witnessed in action. The farmer once grew his flax and his wool, spun the fiber, wove the cloth, made the garment, and wore it out on the farm where it grew, and the cash outlay was nothing. Now he ships his wool a thousand miles away where it is cleaned and made into clothing in great establishments costing millions of dollars, where large numbers of men and women are employed in attending machinery that does most of the work.

Under the old régime wool sold for more money than it does now, but farmers do not ask that woolen mills be destroyed. Not one of them in a thousand would have a weaver's loom set up in his house.

Fifty years ago and farther back, sewing was done by hand, and sewing women lived better then than many of them do now, but that does not tempt anybody to wish there was no such thing as a sewing machine. When farmers cut their grain with sickles and later with cradles, they could better afford to pay 6 per cent interest on deferred land payments than they can now afford to pay 3 per cent; but they would not go back to the conditions which then prevailed and perform all their work as they had to do it then. It would be tiresome work now to cut even a 5-acre field of grain with a sickle.

Farmers are as much pleased with labor-saving machines as other people are; and while they see a constant tendency toward a low level of prices for grain and live stock because of the practical monopoly of the market by grain and provision dealers, millers and packers, yet they would not know how to get along without buyers in the great centers of trade.

It is a fact patent to all that conditions are continually changing in the direction of devices to save human labor and the expenditure of animal force. The incentive to invention is always with us; and the field for its operation is limitless. The first farmer in California cut his wheat with a sickle and thrashed it with the feet of oxen. His successor of to-day uses a machine drawn by 26 horses and with it cuts, thrashes, and sacks the wheat from 25 acres of ground in a day. This improvement reduces the cost of producing wheat fully one-half, but the machine has come to stay until one is invented that will do more work and still further reduce the cost of raising wheat. This kind of farming operates hardly on the small farmer; it cuts down his profits—often removing them utterly—but there is no remedy in that case more than there is in the case of the neighborhood shoemaker whose business is destroyed by machines that make shoes in factories where people are employed by the thousand.

Passing over New England one is scarcely ever out of sight of a town or village, with manufacturing establishments in open view everywhere. The first woolen factory in that region was put up in 1794, but little manufacturing on a large scale was done for many years afterwards. First water power, then steam, now electricity is being introduced.

The first passenger railroad in the United States was operated but little over sixty years ago. It made 8 miles an hour and the cars were neither more comfortable or artistic than a modern coal cart; now we may ride in a palace from Boston to San Francisco without touching the earth and make the trip in five days.

In every department of human activity like marvelous changes have been wrought. We may now talk to one another over wires 1,000 miles long, and by speaking to a phonograph and sending the preserved words across the sea we may communicate in spoken language to a friend in Europe.

Inventive genius is one of the moving forces of civilization; we can no more stop its restless energy than we can still the waves of the ocean. Invention concentrates force and generates power. And it is no more invention to design a ship that carries 100,000 bushels of wheat across the ocean in eight or nine days for $3,000 than it is to plan the organization of men, money, and machines to carry on a steel rolling mill, a railway, or a great packing house. Invention operates in civil and business affairs as well as in motion and machines. It is seen everywhere, in every department of life. It is an ever present, ever acting agency of change. It often takes away men's present means of support, leaving them temporarily helpless; it tends continually to cheapen the cost of production and thus depress the prices of the things produced.

However, while all this is true, and while no man would restrain or limit the inventive faculty, there is much about modern methods which are evil and that tend to cheapen labor and bring down its profits to the very line of living; methods that with rigorous hand applies and enforces the "iron law of wages," allowing to the worker only what will support and sustain life, to the end that he may continue to sow that others may reap.

Remedies may be divided into three classes:

First. Such as farmers can invent and apply individually;

Second. Such as farmers can bring about by association among themselves; and

Third. Such as can be supplied only by the aid of legislation.

INDIVIDUAL REMEDIES.

There are many things that farmers, individually, can do to help themselves, even though they are not "full handed." They can regulate the quantity of land, if they have any (within the limit of their means, of course), that they will till, and they can regulate the manner of tillage. Less land better tilled is a good motto for any farmer. Land can be made to produce 75 bushels of corn to the acre with no more expense than attends the raising of 50 bushels; and wheat may be increased in like proportion with equal ease. That would make 2 acres worth as much as 3 now, and much labor would be saved. A small farm can be handled very cheaply, and every item of expense saved is that much set-off against low prices in the market. Saving is making. A penny saved is equal to 2 pennies earned.

The saving and judicious use of homemade fertilizers is great economy. Many of the old farms of Pennsylvania have been kept in excellent condition by this means ever since they were first opened.

The curing of meats and preserving fruits on the farm where they are grown effects important savings. As much as possible of everything the family needs ought to be produced on the farm and prepared there for use.

There are many little home economies that prudent farmers may practice with benefit, and all of them help that much to make up for losses on the things sold. If wheat drops a cent a bushel and the missing cent can be offset by a cent saved somewhere, the relative loss is not so great by 1 cent. And so we might go on; but all these things occur to intelligent farmers without suggestion from any quarter.

REMEDIES BY ASSOCIATION.

The thing to be remedied is depression in agriculture occasioned by low prices in the market for farm products. If we are right in our conclusion that modern conditions of production tend to cheapness, the farmers must meet this tendency by reducing the cost of what they produce, or save its equivalent in some other way, or they must suffer the consequent losses. This can be done, and a reasonable relation as to prices may be maintained, if farmers are protected against the rapacity of speculators and gamblers.

Wherever farmers have associated themselves together for purposes of mutual improvement and have maintained their organizations they have received mutual benefits. This has been abundantly demonstrated by the Patrons of Husbandry and like bodies of farmers who have made the business of farming a study. In every neighborhood where these local assemblies have become well rooted the members sustain the body, the body blesses the members, and the whole community enjoys proportional advantages.

These associations, however, have not undertaken to unite in the conduct of large farming operations. There have not been any syndidates made up of men who own and till small farms. But why can this not be done? If the cost of producing wheat in Dakota can be reduced to 35 cents a bushel by massing labor and machinery, why can not an association of farmers do proportionally well in other States? If 50 farmers could unite, and put their farms and farming work under management of 3 of their number, using 1 plow where 3 were used before, 1 mower where 4 were used before, 1 harvester where 5 were used before, and 1 thresher of their own in place of hiring that of another owner, as they did before; and if they could thus reduce the cost of production and, at the same time, become better farmers, why can not 100 or 1,000 farmers associate and still further reduce the cost of production?

Some of the most powerful and successful railway corporations are made up of stockholders numbered by the thousand, but the business of the road is in the hands of a board of directors who appoint one of their number to direct the management. One mind superintends the business of a great manufacturing establishment where thousands of men are employed. There is no good reason why farmers could not do as well with experience and training. A rate of progress such as we have made since abandoning wooden moldboards, continued seventy-five years, will bring us to the day of associated farming.

The merchant mill has come to stay, the packing house is a permanent thing, boards of trade will remain, and the course of invention and combination will lie in the direction of lower ranges of prices. These things farmers will always have with them, and can counteract their effects only by corresponding economy in cost of production.

Words like these will have little meaning to farmers who till the 2643 lands of other men, or who, being legal owners of land, are cramped from year to year in keeping up with taxes, interest, insurance, and other incidental and compulsory expenses. The tendency is rapidly toward tenancy among farmers, the ratio having increased 33 per cent in ten years from one-fourth in 1880 to one-third in 1890. Still there are many communities yet where most of the farmers are out of debt, and to them, at least, association is practicable.

To those who are now at the mercy of landlords and are compelled to pay in rent all the increase over and above living, there is little hope except through a change in our land policy and in reduction of charges for the use of money. Land monopoly, in its evil influences and destructive effects, is second only to the monopoly of money. One-third the farmers and two-thirds the townspeople occupy lands and houses belonging to other people. One-half of the freemen of the Republic are renters, and the fact that the number is increasing from year to year is evidence that the recuperative power of the common people is weaker now than ever before, and that the self-sustaining forces of the workers are less effective. The renters of the country own but 5 per cent of the wealth of the country, 91 per cent of the families of the United States own but 29 per cent of the total wealth, while 9 per cent of the families own 71 per cent of the wealth, and 4,047 families own one-fifth.

The homestead laws took effect on the 1st day of January, 1863, thirty years ago—and since that time 200,654,348 acres of the public lands have been disposed of to individual persons in different ways, by entries under the homestead laws, by preemption, by private entry, and for cash. The homestead entries amounted to 144,964,811 acres.

By the several acts granting lands to the Pacific railroads 159,486,766 acres were included, and the estimated quantity that the corporations would receive was 150,281,766 acres. The total quantity of lands included in all the grants to railway companies and to States for railway purposes since the beginning of the practice in 1850 is 217,616,351 acres, less some 500,000 acres for wagon roads. The quantity which it was estimated would be finally conveyed is 190,173,397 acres, less the wagon-road grants. The quantity of lands certified and patented to railway corporations since 1862 is 40,164,450 acres.

The figures for grants to railroad companies and to States for railroads are taken from the report of the General Land Office for 1875, and those for the disposition of public lands to private persons are taken from tables specially prepared for the use of the committee from the records of the General Land Office, and will be found in the appendix.

It is seen that about as much of the public lands have been given to railway corporations as have been taken by private persons; and when it is considered that a very large proportion of the land disposed of to private persons is now owned by comparatively a few men; and when it is considered, further, that millions of acres in all the newer States of the West and Northwest have passed into the hands of mortgage companies, land syndicates, banks, and other money-lending agencies, we can easily understand the power of land monopoly over the interests of landless people. It is worth a man's life now to secure a home on an Indian reservation when it is opened for white settlement—and this only thirty-one years since the Homestead law was passed.

When one man may own 100,000 acres of land that he has no use for, while a thousand other men have no land at all that they can call their own and are too poor to buy, we can see still more clearly how fast the ownership of land is passing away from the people. It brings a thousand men under the dominion of one man.

The remedy for this evil lies in one of two directions:

(1) Voluntary action of the owners in cutting up their lands into small tracts and selling them to farmers on reasonable terms;

(2) By a system of taxation—raising the rate according to the value of the estate.

The voluntary method is too slow. Holders would consult their own interests exclusively, and the process of melting away of large estates would not be fast enough to benefit anybody.

Taxation has the double advantage of producing public revenues while removing an evil of great influence.

NEW CROPS AS WELL AS BETTER METHODS.

Farmers would find it greatly to their advantage, whenever it is practicable, to change crops occasionally and to enter prudently into experiments on new lines. This suggestion applies with special fitness to farmers in the States west of the Mississippi River. In the semi-arid regions it has been found that sorghum, broomcorn, rice-corn, and Kaffir corn grow well, and that the fodder is good rough feed for cattle, sheep, and horses, and that the seed is excellent in fattening properties. When chopped the seeds make as good feed for work animals and milch cows as corn and rye.

And in this region, where irrigation is practiced, all kinds of crops common in the temperate zone are raised in great quantities. Ten acres of irrigated land is worth more to the owner than a quarter section (160 acres) under natural conditions. In the region of Garden City, Kans., experiments have been in progress ten years or more, and the crops there grown under irrigation are luxurious and of the best quality.

In the valley of Salt Lake farmers produce abundant crops by means of irrigation on land that otherwise is without value. Wheat, corn, oats, fruit, and all sorts of vegetables grow to perfection. Sugar beets, alfalfa, cabbage, and their kinds are produced in great profusion. The little farms of 10 acres to 20 acres are supporting families well.

In Yakima Valley, Oregon, in land that wagon wheels will cut into deep dust as fine as that made in a mortar by a druggist, the Northern Pacific Railroad Company has a large irrigating ditch in successful operation. Without water the land is useless, producing only a sort of brush commonly called grease brush. Under the fructifying influence of irrigation little farms are multiplying along the ditch, and grains, grasses, trees, and vegetables are growing most encouragingly.

In southern California, on lands which forty years ago were barren almost as Sahara, now orange groves and orchards of prunes and olives are seen on every hand, and sugar beets and other vegetables are produced in wonderful abundance. While many wheat farmers in California cultivate very large farms, the growers of fruit and vegetables need but 1 acre in their productive lands under irrigation, while the grain farmer needs 10 acres or more.

If colonies of farmers who are now renting other people's lands, would "pool their fortunes" and move to the regions where irrigation is or can be successfully applied, and procure small tracts of land, 10 to 15 or 20 acres each, and build their dwelling houses near each other, village fashion, they could soon, with reasonable success, enjoy life better than the average of farmers on large places.

This, of course, involves a necessary prerequisite—water; and that requires an outlay of large amounts of money—something that renters do not have. The suggestion may reach the eye of some farseeing man who desires to mingle usefulness with selfishness, and he may see in the reclamation and settlement of the arid regions a great opportunity to invest means which will not only add to his personal fortune, but open the way for millions of small farmers to secure their own homes.

The Government of the United States may yet find it wisdom to undertake a movement of this kind. Why not?

WOOL-GROWING.

American farmers ought to produce every pound of wool consumed in the country. They are now and have been many years supplying but about 70 per cent of the total consumption. The wool product of our farmers is about 300,000,000 pounds a year, and we import nearly one-third that much. It is not profitable to produce any but the best grades, and at present prices even the better grades can not be profitably grown in large quantities on high-priced lands. A small flock of good sheep can be maintained profitably on any farm where the conditions are favorable for the health of sheep and for the production of a good quality of wool.

SUGAR-BEET FARMING.

Among the new avenues open to American farmers, more especially those in the region west of the Mississippi River, is the growing of sugar beets and sorghum to be manufactured into sugar. This is the only department of manufacturing yet discovered which can not be carried on far away from the farm. A woolgrower in Nebraska may have his wool made into cloth 1,000 miles away; but if a Massachusetts sugar-maker wants to use Nebraska beets or Kansas sorghum he must go to those States and put his factory right among the farmers that raise the plants. Not simply that it is the cheaper way, but that it is the only practicable way. Beets and cane are so heavy and bulky that they will not bear transportation more than a very short distance. A beet-sugar factory that will work up 600 tons of beets a day uses beets grown on about 5,000 acres of land, and when the beet fields are scattered among fields in other crops, the distance from the outer fields to the factory is quite far enough to transport beets on wagons drawn by horses. When the fields lie along or near a railway track and the station is not far away, the beets may be carried 25 miles without appreciable loss. The loading and unloading on the wagons is the same whether the beets are taken to the factory a mile away or to the railway station the same distance. In any event, no sorghum or beet sugar factory can be successfully conducted anywhere but near the supply of raw material.

A successful sugar factory in a neighborhood is a pioneer. Others will follow at convenient distances away, and the fact that good marketable sugars in profitable quantities have been and are now being produced from both sorghum and beets is encouraging, to say the least. Kansas has been producing sorghum sugar ten years or more, and successful experiments have been made at Medicine Lodge, in that State, with the sugar beet. Nebraska has two beet-sugar factories now in successful operation, one at Norfolk, the other at Grand Island. At Lehi, Utah, some 30 miles south of Salt Lake City, is a beet-sugar factory which has been doing good work some three or four years. There are three successful factories in California, at Watsonville, Alvarado, and Chino; the last named in 1892 and 1893 turned out more sugar than the largest cane-sugar mill in Louisiana.

The writer hereof personally visited all the mills here mentioned except that at Watsonville; he visited the beet fields at all of them and witnessed the processes and methods of growing beets; he studied all the details of preparing the ground, planting the seed, thinning the plants, cultivating the beets and raising them out of the ground, loading them, and hauling them to the factory; and he carefully examined the machinery for taking care of the beets from the time they are dumped into the bins until the sugar is sacked eighteen hours after the beets enter the factory. And during the eighteen hours not a human hand touches them; everything, even to the sacking and weighing of the sugar, is done by machinery.

A plant like that at Norfolk or Chino costs about $500,000; but, though it costs half a million dollars to make the first pound of sugar, after that the way is clear. In the appendix to this report will be found a brief history of the beet-sugar industry in foreign countries and in the United States, together with descriptive matter relating to the soil, culture and handling beets, and the manufacture of beet sugar.

It will be seen by an examination of the matter referred to that the growth of the beet-sugar industry in foreign countries has been slow and costly. Individual fortunes were spent in it, as inventors and discoverers are always subjected to losses, for it is by their mistakes and misfortunes that their successors learn what to avoid and what to adopt. France, Prussia, Russia, Austria, and Germany encouraged the pioneers by direct appropriations, and protected the industry afterwards by bounties, drawbacks, and in other ways. Now it is one of the most important industries; the exports of sugar from France and Germany are very large.

Among the advantages attaching to this industry is that the farms may be small and the profit fair. A few acres of suitable ground is enough to neatly support an average family. Five hundred 10-acre and 15-acre and 20-acre farms spread out with a 600-ton factory in the midst brings the people close together in communities; they are farmers, manufacturers, merchants, teachers—a complete social body, a village of farmers and their helpers where all the advantages of towns may be enjoyed out on the farm.

The Chino Ranch, on which the Chino factory is located, is a large tract of land recently owned by one man, Richard Gird. He entered into a contract to grow beets on his land during a term of years for the Oxnards, who erected a factory. Within three years from the starting of the works a village of nearly 2,000 persons grew up around the mills, and last summer the factory owners erected at their own expense an $8,000 schoolhouse for the use of the people. Mr. Gird early had in mind the parceling out of his land among small farmers, and he found the way open by this beet contract. Many men have already paid for little tracts of 10 acres or more each, and they say they are making satisfactory progress.

At Anaheim, some 25 miles southeast from Chino, an organization of farmers is preparing to erect a factory on the cooperative plan. We heard a good deal of talk about new enterprises in this line, but the movers were hesitating through uncertainty as to what Congress would do concerning sugar in revising the tariff schedules.

There are two principal considerations which have led us to commend this subject to the consideration of farmers. The first is, that grain farming has become unprofitable and some change of crops seems manifestly desirable; the second is, that the quantity of sugar consumed by our people is so large that a great many farmers could be profitably employed in it, and to that extent relieve the pressure on the rest.

The following article from the Louisiana Planter and Sugar Manufacturer of September 2, 1893, expresses the general opinion of the beet-sugar industry among men who have studied the subject:

> To an observer well informed in sugar matters it is becoming daily more and more evident that the beet-sugar industry is destined to soon figure immensely in the agricultural industries of the United States, and especially in Colorado, Utah, and California. The so-called silver States will be known as the beet-sugar States before the end of the century. An agricultural and industrial revolution is now impending that is not dreamed of by the unfamiliar with sugar production.
>
> The practically rainless climate of the silver States and of California and the excellent facilities for irrigation so largely developed there give a degree of control over sugar-beet production that is simply ideal, that can not be reached elsewhere in the agricultural world, and which places those States in the front as economic sugar producers.
>
> American enterprise has always stood ready to avail itself of every chance to get wealth. We have had a so-called aristocracy formed on our fishing industry and distinguished by the suggestive name of *codfish*. The five years preceding the war, and all the years since, have built up another class from those who *struck oil*. The dreary days of the war developed a more ephemeral class, whose fraudulent work gave them the significant name of *shoddy*. Someway or other the sugar planters of Louisiana, while always able to keep the wolf from the door and to pay their debts, never accumulated large fortunes. A man who raises sugar cane, who then manufactures it into sugar and who then seeks a market and sells it can never become very rich. He can't do enough business to enable him to accumulate wealth.
>
> The beet-sugar industry of the United States is founded and conducted on different lines. The territory adapted to the production of beets of quality superior to the European standards is practically unlimited.
>
> The beet-sugar people are building the factories, and the farmers are producing the beets. The ideal central factory plan of sugar production is being inaugurated successfully in Nebraska and California, and the new factories that now work from 300 to 600 tons per day can readily be enlarged to work 500 to 1,000 tons of beets per day.
>
> Sugar beets of better quality than those of Europe can be produced in the United States, and the climatic conditions facilitate the keeping of the beets much better than is usual in Europe, where constant deterioration is the record from the moment the beets are placed in siloes.

> What hindrance is there, then, to the quick, possibly sudden, development of the beet-sugar industry in this country? It is said to be the lack of skilled labor, the lack of willing labor, and the lack of the inclination among our farmers to engage in the industry. All this would seem now to be in the way of quick settlement. The low prices of wheat necessitate the consideration of other crops; we are securing skilled labor as rapidly as we need it; successful machine work has been introduced and the unemployed thousands will respond to the demand for common labor.
>
> We find the California journals relating the visits to their beet-sugar factories of representative Germans investigating on sugar-producing advantages at Chino. Some two weeks ago a party of distinguished German sugar experts visited the factory. Prof. Dr. Alexander Herzfeld and Dr. Waldemar Frentzel, of Berlin, George Scheller, of Breslau, and F. Hecker, of Magdeburg, made up the party. They were sent here by the German Government to examine into our agriculture, and especially into our beet-sugar industry. They had been to Chicago and to Nebraska, had gone to Watsonville and thence to Chino.
>
> Referring to the American sugar industry, Prof. Herzfeld said that if this country continues the bounty on sugar five or ten years Germany will not only lose her present American market for beet sugar, to which she ships largely, but will also lose the English market, as we shall have the ability to take it from them. In Germany we have some factories that handle 1,200 tons of beets per day, and in France one factory that uses the juice from 25,000 tons of beets per day. He says we have a material advantage in our long working season and will soon have so many beet-sugar factories that we shall be sending beet sugar to Europe.

Every acre devoted to beets or sorghum is 1 acre less for wheat and corn. The more farmers raise sugar plants the better it will be for those that raise grain.

The people of the United States use about 4,000,000,000 pounds of sugar a year now. The average production of sugar beets is 10 tons to the acre, and the average yield of sugar is 165 pounds to the ton of good beets. This gives 1,650 pounds of sugar to the acre of ground. A factory that works up the beets grown on 5,000 acres of land will produce 8,250,000 pounds of sugar yearly, and at that average for the whole country it would require 436 factories to supply the present demand. To raise the beets for these 436 factories would need the use of 2,181,818 acres of land, and 218,000 farmers with their families, as many as there are in Kansas and Nebraska both, would have employment at living wages. This includes only the land actually used for beet culture. In practice a body of land producing that quantity of beets would be but a part, and probably a small part, of the whole region devoted to beet-growing with other crops.

Prices now paid range from $4 to $5 a ton at the factory, measured according to the quality of the beets. The quality is determined by chemical tests showing the percentage of sugar contained in the substance of the beet. At the average of 10 tons to the acre this returns about $45 an acre to the grower. Some farmers produce 15 to 20 tons to the acre, just as some wheat farmers grow 30 to 40 bushels of wheat, and these more successful men receive larger returns.

It is to be expected of course that prices for beets will not always remain at their present level. As machinery becomes perfected and processes more simplified, and as the industry becomes firmly established prices of raw material will be forced down by the same laws of business and trade that have forced down the market for wheat, cotton, and other farm products. Sugar factories will have the same effect on the price of beets that mills, packing houses, and cotton factories have had on the prices of wheat, cattle, and cotton. To begin with, the plant costs nearly $500,000, and that amount of capital requires careful watching; every point must be guarded; for, after all, in any large business the profits come chiefly from savings, and the place to begin the saving process is at the counter where the raw materials are paid for. Buy low is the motto. And it will make no difference in this respect if farmers themselves are owners or part owners of the plant. Farmers are just like other men. They buy low as they can, and expect profits, if they secure any, out of what they sell. An organization of farmers making sugar out of their own beets would pay themselves out of the profits on the sugar they turned out and not on the beets they raised.

But prices could be cut down 30 per cent from present rates and still sugar-beet growing (with a factory near to work up the beets) would pay 100 per cent better than wheat or corn or cotton farming, at prices ruling the last ten years. Eight dollars an acre is more than the present average returns on wheat and corn land. For 1893 the average farm value of an acre of wheat was $6.16.

It is not to be expected, however, that farmers will or can go into the business of manufacturing sugar without the assistance of men who have or can procure ready money to invest in the enterprise, and such men will not move in that direction without study and careful preparation. Nor will they engage in it at all unless they expect to profit by the transaction, and this brings before us the obstacles to be overcome. In the first place, there are few trained sugar-makers in the United States who are not now employed every hour of their time. Nor is there a school in the country devoted to teaching the art of sugar-making. And we have no men who understand how to handle sugar-making machinery except such as are now busy at work in factories already established. What is still more in the way is the fact that farmers have to learn how to raise good sugar beets, and there is the beginning point.

The ground requires special preparation and special tillage. Planting the seed and taking care of the plants requires much studious and hard labor, and all these things must be learned under instruction of experienced persons. It would not be prudent to begin the erection of a factory until after the farmers who expect to supply the beets had at least one year practical experience to justify an estimate of what they can do.

To acquire this necessary experience is a costly proceeding—not to the farmer, because he can use his beets for cattle feed, and he has improved his land by more careful tillage than he ever gave it before. But the projectors of the enterprise or they who are expected to furnish most of the ready money and the business management will take no risks without well-grounded expectations of making a good reward sometime, and they must wait to learn how the farmers succeed in the first move.

The early success of the beet-sugar industry in the United States largely depends on State and national legislation. Kansas, in 1887, granted a bounty of 2 cents a pound on all sugar made in that State from cane or beets grown there, and a good deal of money has been paid out as bounties on sorghum sugar in that State. At one time there were five Kansas factories turning out merchantable sugar. Only one was operated in 1893. The others failed from one cause or another, but none of them because sugar can not be successfully manufactured from sorghum cane at a profit. The principal difficulty has been the lack of experience and money on the part of the managers.

Of the factory and fields located at and near Medicine Lodge, a local paper, in September, 1893, thus said:

> The mill located in Medicine Lodge is, as is well known, the largest sorghum sugar factory in the world and one of the largest equipped mills in the United States, having all the latest improvements in machinery. We have every confi-

> dence in the persevering enterprise of the English capitalists who own the mill and that they will be well content with the measure of success which will be the result of this season's working. The fact that whilst every other crop in the United States has been a partial failure, in the Western States even a well-nigh total failure, the sorghum crop will show a full average half yield of cane of increased sugar content, speaking volumes for the stability and remunerative character of the industry. We fully expect that when the facts concerning this season's working becomes known numerous other sorghum sugar mills will before long be established in this the sugar belt of Kansas.

The idea that a sugar factory for successful operation can be erected without heavy outlays has been abandoned. It would not have been entertained at all if in the beginning the history of sugar-making had been more carefully studied.

The history of beet sugar in the United States is not unlike that in foreign countries. Disaster and failure resulted from our first attempts, and no small amount of capital was swallowed up. The early experience of our venturesome capitalists in behalf of this industry commenced in 1828 and ran down through 1863, 1879, culminating in our recent and successful efforts. It has been the same as that abroad. Consul Potter, writting from Stuttgart under date of November 1, 1879, says:

> It may be considered a fortunate circumstance for the United States that the manufacture of beet sugar has not heretofore been attempted on an extensive scale. The European farmers and manufacturers have suffered all the discouragements and losses incident to twenty years of experiment in developing the industry before it began to pay.

Cotemporaneous with the firm establishment of this industry in France, in 1830, two gentlemen of Philadelphia entered upon an experiment, but it failed because they were ignorant of the method of cultivating beets and of the extraction of sugar. In 1838 Mr. Childs, who had spent nearly two years abroad studying the industry in Europe, undertook an experiment at Northampton, Mass., but he had been unable to ascertain abroad the necessary information concerning the extraction of sugar unless he would purchase the exclusive right to use the method in the United States. He therefore operated with his own machinery, and it resulted in failure. He obtained only 6 per cent of saccharine and his sugar cost him 11 cents a pound. In 1863 the Gennert Bros., of New York, started an enterprise in the direction of obtaining sugar from beets at Chatsworth, Ill., which failed there in 1870 because of bad management, lack of knowledge, too much rain in 1869, and a drought in 1870. The management removed to Stephenson, Ill., where failure also overtook the effort, and from there the plant was removed to Black Hawk, Wis., and was merged with a plant which had started there one year previous, but it seems not to have arrived in time to be of use in 1871, and the water supply having dried up, the experiment there was a failure. Previous to this some good results, however, had been obtained at Fond du Lac, but the two Germans (Otto and Bonesteel), who had been operating it, accepted an offer made them by a company organized about this time at Alvarado, Cal., where Mr. Otto became superintendent. He subsequently went to Soquel, Cal., where as late as 1876 a factory was reported as in successful operation, but it soon failed.

In 1876 drought destroyed the beet crop at Alvarado and the company failed. The Sacramento Valley Company, in California, commenced operations in 1870, and it too went into liquidation in 1875, at great loss. Over $1,000,000 of capital was sunk in California. The Alvarado works were resuscitated, and after a tedious struggle became able, in 1892, to make a small dividend after several years of losses. A factory was erected in Maine, and one in Delaware, at Portland, and at Wilmington, but notwithstanding that bounties of $300 and $1,500 were offered in Delaware, and notwithstanding premiums, by way of exemption from taxation, were offered also in New Jersey and Massachusetts, and encouragement in Maine in 1870-'71, the experiments went to the wall.

The successful era of the production of sugar from beets may be dated from the organization of the factory at Watsonville, Cal., and the reorganization of the Alvarado factory in 1880, followed by the building of three factories in 1889, 1891, and in 1892 at Grand Island, and at Norfolk, Nebr., and at Chino, Cal., by the Oxnard Bros., who have invested large sums of money, having expended time and money abroad and here studying the sugar industry. The financial results for the past three years have shown little or no profit, which is the experience abroad, but with a few more years encouragement as in the present law, they hope to make fair dividends.

The beet-sugar producers in this country are laboring under many and severe disadvantages; educating the farmers is alone expensive; labor is a great factor and the inability to market what is known as the "by-products," together with high freight tariffs and the sharp competition from abroad, make the industry but a struggling financial experiment as yet. These "by-products" are of material value in increasing the cost here of sugar. They consist of the pulp, which is extensively fed to cattle in Europe, because it is very fattening; worth there $1.25 a ton, given away here when 25 cents can not be obtained for it. Our farmers have not yet come to realize its real worth. Then we have the potash salts and the lime cake, used abroad by farmers for fertilizing, and liberally paid for, while in this country it is an item of expense, as it must be hauled away from the factory.

The following table shows how much sugar we have bought from foreign countries since 1851, and the amount of duty paid thereon:

Quantities and values of sugar imported into the United States, with the annual amounts of duty collected on, and cost per pound of, imported sugar for each year from 1851 to 1892, inclusive.

Year ending June 30—	Sugar.				
	Dutiable.	Free and dutiable.		Duty collected.	Average cost per pound in foreign country.
	Pounds.	*Pounds.*			*Cents.*
1851	380,402,289	380,402,289	$13,841,471.00	$4,043,612.70	3.60
1852	457,511,093	457,511,093	14,712,848.00	4,175,758.80	3.11
1853	464,402,286	464,402,286	14,987,831.00	4,250,501.10	3.18
1854	455,928,585	455,928,585	13,702,781.00	3,481,423.80	2.89
1855	473,809,847	473,809,847	14,676,345.00	3,981,921.90	3.02
1856	545,226,430	545,226,430	22,537,414.00	6,385,974.90	4.08
1857	776,984,262	776,984,262	42,774,614.00	12,477,020.10	5.45
1858	519,200,387	519,200,387	23,434,508.00	4,550,639.28	4.26
1859	655,846,362	655,846,362	30,577,335.00	6,797,879.28	4.55
1860	694,838,197	694,838,197	31,078,970.00	6,941,553.12	4.38
1861	809,749,958	809,749,958	30,637,897.00	6,511,251.19	3.68
1862	557,738,382	557,738,382	20,357,090.00	11,624,493.64	3.66
1863	518,594,861	518,594,861	19,082,017.00	11,118,544.38	3.63
1864	632,230,247	632,230,247	29,660,076.00	14,301,234.65	4.68
1865	651,936,494	651,936,494	27,325,807.00	17,642,958.88	4.39
1866	1,000,055,024	1,000,055,024	40,660,172.00	27,312,967.65	4.02
1867	849,054,006	849,054,006	35,941,253.00	28,570,492.23	4.09
1868	1,121,189,415	1,121,189,415	49,495,102.00	30,447,970.89	4.33
1869	1,247,833,430	1,247,833,430	60,407,202.00	30,923,907.06	4.74
1870	1,196,773,569	1,196,773,569	56,923,745.00	36,819,041.26	4.95
1871	1,277,473,653	1,277,473,653	64,621,239.00	30,751,497.34	4.94
1872	1,509,185,674	1,509,185,674	81,213,001.00	28,865,447.02	5.37
1873	1,568,304,592	1,568,304,592	82,716,953.00	29,832,579.43	5.36
1874	1,701,297,869	1,701,297,869	81,887,463.00	32,491,318.70	4.95
1875	1,797,509,990	1,797,509,990	73,330,556.00	34,650,084.66	4.35
1876	1,493,977,472	1,493,977,472	58,120,583.00	39,438,417.55	4.04
1877	1,623,932,669	1,654,556,831	84,978,182.00	35,268,294.48	4.91
1878	1,507,515,385	1,537,451,934	73,090,958.00	37,075,426.96	5.06
1879	1,793,004,002	1,834,365,836	72,078,688.00	38,065,803.76	4.10
1880	1,768,253,496	1,829,291,684	80,087,720.00	39,739,306.49	4.18
1881	1,869,957,918	1,946,745,205	86,670,624.00	46,318,073.49	4.41
1882	1,884,267,751	1,990,152,374	90,439,675.00	46,711,795.14	4.41
1883	2,023,686,453	2,137,667,865	91,637,992.00	44,591,448.98	4.37
1884	2,631,258,228	2,756,416,896	98,262,607.00	47,500,749.79	3.61
1885	2,548,232,050	2,717,884,653	72,519,514.00	50,885,915.89	2.67
1886	2,498,258,590	2,689,881,765	80,773,744.00	50,265,538.24	2.84
1887	2,918,152,405	3,136,443,240	78,411,224.00	56,507,495.57	2.50
1888	2,471,743,769	2,700,284,282	74,245,206.00	50,647,014.17	2.75
1889	2,518,878,284	2,762,202,967	88,543,971.00	54,896,437.38	3.21
1890	2,709,554,549	2,934,011,560	96,094,532.00	53,985,873.85	3.28
1891	1,839,147,334	3,483,477,222	105,728,216.00	32,303,692.63	3.03
1892	14,880,402	3,556,509,165	104,408,813.00	76,795.14	2.93

NOTE.—All sugar and molasses imported prior to 1877 were dutiable; from 1877 all raw sugar and molasses imported from the Hawaiian Islands were free of duty; all sugar not above No. 16 Dutch standard, and all molasses imported from April 1, 1891, were free of duty, except such as are provided for in section 3 of the act of October 1, 1890.

It was costing the people so much for sugar that Congress, in 1890, determined to remove the duty on foreign sugar below a certain grade and enter upon a fifteen-year experiment to determine whether in that time we could not build up a national sugar industry in the United States and whether our own people could not in that length of time make all or most of the sugar we consume. It was enacted that during these fifteen years a bounty of 2 cents should be paid directly out of the Treasury to manufacturers of sugar for every pound they should make above a certain standard, and 1¾ cents a pound on sugar below that standard. The manufacture of domestic sugar has largely increased since that law was passed, and if it is allowed to run its course and expire by limitation, American manufacturers ought to be able to supply most of the sugar we need at prices as low as it can be furnished to us by foreign manufacturers; but whether they reach that point or not the people will have, after that, all their sugar at the lowest price that it can be produced for anywhere in the world and laid down in our warehouses.

Whether the bounty should remain in force until the expiration of the time named in the law is purely a matter of business to be determined by ourselves in our own interests. If the policy of protection to manufactures is to be maintained, the subcommittee are of opinion that it would be cheaper to retain the bounty than to abolish it and restore the duty, for the rate is the same—about 2 cents a pound. All foreign sugars of every grade ought to be admitted free for all time; and if our home manufacturers can not, in eleven more years of protection, successfully cope with German and French sugar-makers, they can go out of business.

The amount of money paid as duty on foreign sugar imported into the United States during the one hundred years prior to 1890, when the duty was removed as to all coarse sugars, is very large. It amounted to about $750,000,000 from 1875 to 1890.

Every dollar of that was paid by the consumers of sugar in this country. Our own manufacturers never made enough sugar to affect the price. Our average annual production from 1880 to 1886 was about 200,000,000 pounds, and the average annual importation during the same years was more than ten times that much. Of 11 pounds of sugar that we consumed we made 1 pound ourselves and imported 10 pounds, and we paid the average duty of 2 cents a pound on all of it, both foreign and domestic; we paid it because the duty was added to the price. Without duty the price would have been that much less. If the law had not been altered and we were now paying the same duty that was paid under the old law, our sugar in 1893 would have cost us nearly if not quite $72,000,000 more than the same quantity of free sugar would have cost us, and about $60,000,000 more than the 2 cent bounty cost us. If our domestic production, by the time the bounty law would expire by its own terms, should be as much as we are now importing, the bounty payment would be very large, but even in that case we would not have paid in bounties during the whole fifteen years half as much as we would have paid in duty had the law not been altered, and nobody believes we could have got free sugar at all had not a temporary bounty equal to the duty been provided.

In considering the question whether it is better to retain the present law and let it expire by its own limitation, in 1905, rather than to repeal it and leave our sugar-makers suddenly in open competition with foreign manufacturers, it is well to look at the subject from every practical standpoint. There ought to be no sentiment in a matter so important as this. If our domestic producers can not, in a reasonable time, give us sugar as cheaply as Germans or Frenchmen can do it, it were far better for the country to have free sugar at once with no bounty or other protection to the home manufacturer. We can not afford to pay for protection more than it is worth. But if we can, by paying a bounty of 2 cents a pound on home made-sugar eleven years, secure free sugar forever after that, we shall have gained much for our farmers, for all the people, and for the country.

If our protective policy is to be maintained, sugar manufacturers are as much entitled to protection as any other class; and this is all the more apparent from the fact that modern and very recent improvements in processes for extracting sugar from the plants give hopeful indications of ultimate triumph. The establishment of a national sugar industry in the United States would be helpful especially to farmers.

On the other hand, if we are to abandon the protective policy and admit all foreign manufactures free of duty, be it so, and farmers can stand the change as well as any other class. In view of the fact that no early revision of tariff duties is likely to put manufactures on the free list, we submit some considerations in favor of a few years' bounty rather than a perpetual tariff tax.

PRODUCTION OF SUGAR IN THE UNITED STATES.

American cane sugar is produced chiefly in the extreme Southern States, mostly in Louisiana. The statement below is copied from the quarterly report of the Chief of the Bureau of Statistics at Washingon City for the quarter ending March 31, 1887:

Quantities of sugar produced in the United States during the years from 1852 to 1886, inclusive.

Year.	Louisiana.	Other Southern States.	Year.	Louisiana.	Other Southern States.
	Pounds.	*Pounds.*		*Pounds.*	*Pounds.*
1852–'53	368,129,000	18,173,000	1869–'70	99,452,940	5,380,000
1853–'54	495,156,000	29,998,000	1870–'71	168.878,592	9,426,000
1854–'55	385,227,000	29,498.000	1871–'72	146,906,125	9,446.000
1855–'56	254,569,000	22,000,000	1872–'73	125.346,493	9,486,000
1856–'57	81,373,000	5,987.000	1873–'74	103.241,119	5.399,000
1857–'58	307,666,700	14,303,000	1874–'75	134,504,691	7,736.000
1858–'59	414.796.000	18,298.000	1875–'76	163,418,070	9,062,000
1859–'60	255,115,750	11,534.000	1876–'77	190,672,570	8,688,000
1860–'61	265,063,000	9,661,000	1877–'78	147,101.941	11.940,000
1861–'62	528,321,500	11,509,000	1878–'79	239,478,753	11,402,000
1862–'63	96,840,000	6,200,000	1879–'80	198,962,278	8,915.000
1863–'64	84,500,000	560,000	1880–'81	272,982,899	12,320,000
1864–'65	10,800,000	400,000	1881–'82	159.874.950	11,200,000
1865–'66	19,900,000	780.000	1882–'83	303,066,258	15,680,000
1866–'67	42,900,000	7,500,000	1883–'84	287,712,230	15,232,000
1867–'68	41,400.000	10,120,000	1884–'85	211,402,963	14,560,000
1868–'69	95,051,225	5,750.000	1885–'86	286,626,486	16.128,000

For convenience of comparison, showing the growth and development of our home sugar interest, we have taken the year 1880 as a starting point for cane and beets, giving the yearly product in tons of 2,240 pounds, by semidecades, as follows:

Years.	Louisiana—cane sugar.	Other Southern States—cane sugar.	Beet sugar—United States.
	Tons.	*Tons.*	*Tons.*
1880	88,822	5,500	357
1885	94,375	7,200	600
1890	128,794	6,107	2,800
1891			5,400
1892	160,937		12,000
1893 (estimated)	250,000	10,000	25,000

It appears that the increase in production of Louisiana cane sugar from 1880 to 1885 was about 7 per cent; from 1885 to 1890 it was 33 per cent; from 1890 to 1892 it was 25 per cent; and from 1892 to 1893 it was 60 per cent. Beet sugar gained 40 per cent from 1880 to 1885; 35 per cent during the next five years; 200 per cent in the year 1891; 240 for 1892, and 200 for 1893.

The average yearly increase of domestic sugar, since 1890, has been about 25 per cent. It is not unreasonable to expect that under the same stimulus (2 cents a pound bounty) the annual increase in the next eleven years will be equally as great. On that basis of development we have the following figures of annual domestic production:

Years.	Production.	Years.	Production.
	Pounds.		*Pounds.*
1892	426,578,880	1900	1,528,500,000
1893	511,895,000	1901	1,834,200,000
1894	614,275,000	1902	2,201,000,000
1896	737,130,000	1903	2,641,200,000
1897	884,556,000	1904	3,169,440,000
1898	1,061,467,000	1905	3,803,328,000
1899	1,273,760,000		

This would be 70 per cent of our probable requirements. No one can say, of course, how rapidly cane sugar production in Louisiana, Texas, and Florida will develop if an assurance is given and maintained that the present policy shall stand for the period prescribed in the law; nor can any one predict how rapidly beet-sugar factories will be erected; but on the basis of the average increase of consumption in the United States from 1883 to 1892, both inclusive, which was 5·95 per cent, with an average increase of population of 28 per cent in a decade, we would have in 1905, of population, 80,000,000, and would require 68 pounds per capita, or say 5,440,000,000 pounds. The amount of bounty would vary between 1¾ and 2 cents, and at the end of the period now fixed by law, would seem to be a large sum of money, but not nearly as large as the old duty would have amounted to. The bounty for 1905, on the 20 per cent increase estimate as above, would be about $76,000,000, while the old duty on our probable consumption at that time—5,440,000,000 pounds—would be $108,800,000, a difference in favor of the present plan of $32,000,000.

The consumption of sugar in the United States in 1892 was about 4,000,000,000 pounds. At the average duty of 2 cents a pound, our sugar that year would have cost us $80,000,000 more than free sugar. The bounty paid on the domestic sugar crop of 1892 was $9,375,130.88. Had the old law remained, our sugar would have cost us $70,000,000, in round numbers, more than it did cost us.

Put in another form, allowing for differences between wholesale and retail prices, we have—

Total consumption of sugar in the United States in 1892, according to Willett and Gray ....pounds..		4,116,082,240
Average price before 1890 was ....cents..		8⅓
Total cost to consumers		$343,606,853
Under the bounty policy the average has been but 5½ cents, or a total of		226,384,523
Difference		116,622,330
Out of this we could have paid a 2-cent duty on our imports of sugar in 1892, say	$72,000,000	
Also the bounty, say	10,000,000	
		82,000,000
And have left in the pockets of consumers		34,623,330

The per capita consumption in 1892 was 64$\frac{3}{10}$ pounds. A family of five would have consumed say 321½ pounds, which would have cost under the duty policy $26.79⅛, and under the bounty policy $17.65¾, a difference of 9.13\frac{22}{24}$; enough to pay the taxes of many a farmer.

This difference in *cost* of sugar under the old and new policy increases as the production increases on the basis stated. So that under the bounty policy a very much larger sum would remain in the pockets of the consumers and taxpayers than the total bounty or the bounty for any one year. For instance, if the people were called on to pay 8⅓ cents per pound for the sugar, they will probably consume, if the price is low in 1905, 5,440,000,000 pounds, at 8⅓ cents, would be $453,330,000; at 5½ cents it would be $299,200,000; at 6½ cents, if a duty of a cent per pound was put upon sugar, it would be $353,600,000.

So that in either event the people in 1905 would be gainers of from 153 to 100 millions. If the dual policy of a cent duty and a cent bounty was adopted, then in 1905, out of the 100 millions of difference the revenues could receive about 25 millions and the bounty be fully paid.

The statistical abstract shows that prior to 1890–'91, in about forty-one or forty-two years the people paid *in duty* on sugar the enormous sum of *one billion, one hundred and fifty millions* of dollars, and that we sent abroad for sugar in that time, in gold or its equivalent, over *three and one-half billions of dollars.*

If the policy of free sugar, or without any protection to our domestic manufacturers, is to be inaugurated at this time, it would doubtless have the effect to check the development of our sugar industry; for, while existing factories might be able to cripple along in the face of foreign competitors so strong as to be able at all times to control the price in our own markets, no prudent capitalist would care to enter the field as a beginner as long as he could make his money earn 3 per cent interest in other enterprises.

But we beg leave to submit, that as long as the people maintain a protective policy as to manufactures of cotton, wool, iron, wood, clay, rags, and other articles in a thousand forms, it is no more just than it is patriotic to close the doors against farmers who see a profitable business open to them, if the Government will assist manufacturers to develop the sugar industry as it has helped other classes of manufacturers to develop other industries. All the farmer needs is fair play.

We have devoted our attention to beet sugar chiefly, because it is just entering the American field. The Southern cane-sugar industry has been with us a long time, and though it was almost destroyed during the war, it has remained, and as our figures show, it is now developing rapidly.

SORGHUM-SUGAR MAKING.

From accidental discoveries in the early history of sorghum-sirup experiments in the United States it was believed some years ago that sugar making on a small scale could be made successful, so that farmers might produce their own sugar as they made cider and apple butter. After many attempts and failures the project was abandoned. It was then thought that small aggregations of capital, within the range of a few farmers' means, could be used advantageously in the manufacture of sorghum sugar. This, too, was tried and had to be abandoned, for good sugar could not be made in paying quantities that way. Then stronger companies were organized, and large and costly mills were erected, and the State and the Government assisted under appropriations of money by Congress. This step demonstrated the practicability of making sorghum sugar at a profit, and also it made plain the fact, now undisputed, that final success can be accomplished only by the use of large amounts of money and the investment of strong capital.

Farmers alone, and without the aid of men who have or can procure ready money to start the business, can do nothing beyond the mere making of sirup. With the necessary professional and business talent to conduct the operations of a factory the investment of $250,000 to $500,000 in a single plant almost anywhere in the United States, not further north than 40° of latitude, sorghum-sugar making can be made a commercial success. This is especially true of the region west of the Mississippi River, extending from the north line of Missouri southward.

What has been done and is now being done in Kansas demonstrates this proposition clearly. Should Congress continue the protection policy of the country and let the present bounty law run its course, or restore the old duty on foreign sugar, it may be reasonably expected that the sorghum-sugar industry would develop rapidly, much to the advantage of farmers in the region above described. The foundation is now begun in Kansas, where two factories are in successful operation.

The sugar output as reported by the state sugar inspector for 1893 was 934,172 pounds. Of this, 730,372 pounds was made at the Fort Scott works of the Parkinson Sugar Company and 203,800 pounds by the Medicine Lodge Sugar Company, upon which the total State bounty, under the laws, amounted to $7,006.29.

In closing his report of the year's results, the inspector submits an observation of his own as follows: "An important factor in the question of successful sugar-making presents itself to the manufacturers in the relations of the National Government to the industry. Should the Government bounty be removed and no duty on imported sugar be imposed, it would seem futile to discuss further the subject of sugar-making in Kansas. If, however, the present conditions are not disturbed or materially changed, there is reason to believe that those now in charge of the business will work out some plan whereby the industry will become self-sustaining."

Kansas soil and climate are peculiarly well adapted to the growth of sorghum, and experiments thus far made with sugar beets give fresh encouragement. All doubts as to the final outcome have been dispelled. What is needed now is capital, experience, and good business management. But without the bounty or its equivalent in duty on foreign sugar, new factories will be built slowly—so slowly as not to affect the price in our favor, and sorghum and beets will soon be worth less than half as much as they now are. The inducement will not be sufficient to encourage either capitalists or farmers to go into the business of making sugar.

[In the appendix will be found much detailed information concerning the culture of beets and the manufacture of beet sugar.]

REMEDIES BY STATE LEGISLATION.

Remedies by legislation are of two classes—State and national. States can do much to relieve agriculture by keeping freight charges uniform and reasonable on State traffic, and by establishing a warehouse and grading system so that farmers may have convenient and common warehouse and elevator privileges. They could then store their grains under State regulations, where it would be safe, and warehouse receipts could be used in trade when necessary and, in emergencies, might be used in payment of local taxes. A warehouse receipt for wheat is good collateral at any local bank. With warehouses regulated by State laws farmers could better suit their convenience and inclinations many times in the matter of disposing of their grains. Where there are no conveniences on the farm for storing grain it must be disposed of all at one time, and this tends to inflate the market and reduce prices.

State laws can do much to aid not only farmers but all classes of producers by regulating charges in all quasi public institutions, as mills, express companies, and in keeping charges of public officers within reasonable bounds. State laws can and ought to establish and maintain a just and equitable system of assessment and taxation, and protect all rights under collection laws.

EQUALIZE TAXATION.

Among remedies by State legislation, perhaps none is more important than to equalize taxation. Let owners of all property bear their proper proportion of the public obligations. From what has gone before in this report it is evident that an immense amount of personal property wholly escapes the eye of the assessor, and hence its value never gets onto the tax rolls.

Whatever people regard as of sufficient value to them to put money in is fit property for assessment. If a man invests $10,000 in a horse, that is his own estimate of the horse's value, and it ought to be assessed the same as common horses—at a fair rate on the estimated value. So a rare painting, that none but persons of wealth could afford to purchase, may have cost its owner $25,000. Is there any reason why that amount of money, represented by the picture, should not be taxed? It may be inquisitorial, but that is not a sufficient reason why luxuries of various kinds—statuary and paintings, curtains and carpets, jewelry, diamonds and other precious stones, etc.—should not be taxed.

There are at least two good reasons why such property should not be permitted to escape taxation: (1) It is unjust to persons who are not able to own and enjoy such luxuries; (2) persons who do own property that is too costly for common people to have are usually persons of great wealth and are more able to pay taxes on their luxuries than common people are able to pay taxes on their necessaries.

There is no room for doubt on the proposition that with a just and equitable system of assessment and taxation in force farmers would be relieved from one-fourth to one-third of the taxes they are now paying, and this, of itself, would afford much relief, for, as we have before stated, saving is an important item in the success of any business.

The total number of persons who paid taxes on incomes in 1867 was 259,385, and in 1868 it had fallen to 233,497.

This shows how few of our rich people are caught even with a tax on $1,000 incomes. Assessment laws, after being just, ought to be rigorously enforced. If it be inquisitorial, honesty in making returns would soon disarm the inquisitors.

And if it be found that a just system of personal-property taxation can not be enforced, let it be abandoned; abolish all personal taxation and place taxes on land exclusive of improvements, so that a 25-foot lot in a city that is worth, for merchandising or manufacturing, $100,000 shall be taxed at one hundred times as much as a farm that, without its improvements, is worth only $1,000.

REMEDIES BY NATIONAL LEGISLATION.

Concerning remedies by means of national legislation, we suggest—

First. An improved system of Government crop and market reporting.

Second. Suppression of the business commonly known as dealing in futures and options.

Third. Consolidation of the transportation business to the end that charges may be uniform in all parts of the country and that carriage shall not cost more than it is reasonably worth.

Fourth. Cease class legislation.

Fifth. Improve our monetary system and change our financial methods in the respects following: (*a*) Restore silver coin to its ancient place as money; (*b*) provide an abundant legal tender national currency; (*c*) abolish banks of issue, establish public savings depositories, and keep all banks under direct surveillance of the Government; (*d*) reduce rates of interest to a reasonable and uniform standard.

Sixth. Divorce the Government from the moneyed interest and limit the exercise of its powers to purely public affairs.

CROP AND MARKET REPORTS.

The only objection to present Department reports which we have observed among farmers and dealers in farm products are such as relate chiefly to estimates and arguments printed in the reports, and which are used, or believed to be used, by speculators in their manipulations of the market.

There is a general demand—it is practically unanimous among farmers—for a system of crop and market reporting by the Government that will give facts only and get them to the people as soon as possible. And in addition to this farmers want correct statistical information concerning what has been done in matters appertaining to their business in past years.

The Department of Agriculture, they say, was established in the interest of agriculture, and they want all the good influences it can exert in their behalf. Frequent communications from the Department, showing present conditions of home and foreign markets, and conveying to farmers information relating to methods of dealing in farm products in all parts of the world would be of great benefit. Farmers pay their full share of taxes; they furnish more of the things that keep the world of business moving than any other class of workers, and they justly demand that the Government pay attention to their interests as well as to the interests of other classes of citizens.

FUTURES AND OPTIONS.

Having discussed this subject somewhat at length when assigning causes of depression, nothing further is needed in this place than to demand that the business be abolished and prohibited under heavy penalties. It ought to be made a felony and punished by imprisonment. If the business is wrong in itself and hurtful it ought not to be tolerated.

CONSOLIDATION OF THE CARRYING BUSINESS.

Transportation of persons and property from place to place is so purely the exercise of a public function that its benefits and its burdens can be justly distributed only by bringing the various departments of the business into one, and establishing uniform rates of compensation which shall be reasonable and just to the carriers and the people.

This would be for the whole country no more than the carriers themselves are now doing in their own interests for particular districts. There are many different associations of railroad companies now in existence having for their object to "maintain rates" in the territory in which their roads operate. To "maintain rates" is a way the railroad people have of establishing and maintaining uniform rates in the district where they do business. There is nothing unreasonable or illogical in this practice, and if there had never been anything vicious connected with it farmers would not have interposed any objections to it. Farmers do not object to paying reasonable compensation for every service rendered them, but they do object to unjust discriminations against them and in favor of other classes. They do object to paying higher rates in one part of the country than in another for carrying their products to market. They want a uniform system of transportation, so that benefits and burdens may be fairly distributed among the people.

Let all the railroads of the country—those which are in any way connected with interstate commerce—be brought into one system, with uniform rates based on the actual value of the roads. Let the different classes of property be fairly scheduled and average rates for each class determined. Let all differentials be adjusted and settled in one office, all the companies reporting there, the whole business to be under the supervision of a board of competent men.

Details are matters for Congress to determine. We suggest only a a general outline of the plan.

CLASS LEGISLATION.

From what was said and shown in our treatment of the concentration of the money interest, the extravagant capitalization of railroad and other corporations, waste of the public lands, and the business relations of the Government with the banking interest, it is clear that much of our legislation may be properly regarded as class legislation, hurtful in every sense so far as the public interests are concerned; and there is no better rule to apply in this and all like cases than that laid down in the "blessed book"—cease to do evil and learn to do good. There is only one proper ground on which governmental interference with private business interests can be justified, and that is the public good. Private property may be taken for public use; a schoolhouse may be turned into a warehouse, a church into a hospital, a garden into a railway station, and so on; but in every case of appropriation of property by the public it must be for public use—the object being the public good.

The Government interferes with private business when it assumes charge of the people's correspondence and carries their mail for them; so when it establishes a ferry, a wagon road, or a bank. The same principle applies in the taxation of certain foreign commodities in order to insure or encourage the establishment of some great national industry at home. It is applied where bounty is paid for the production of a particular species of property for the general good; but whenever legislation is intended to benefit a particular person or class of persons, independently of the common welfare, it becomes class legislation, and ought to be avoided for that reason.

The dangerous influences now possessed by the powerful banking houses, the leading railway corporations, and the great manufacturing establishments is the result of legislation in favor of private interests. The aim of all legislation ought to be to promote the general welfare.

EXCESSIVE CAPITALIZATION OF INDUSTRIAL ENTERPRISES.

A new system of industrial capitalization has become common in this country as well as in England within a comparatively short period of time. Much of the business that was formerly done by individual persons or by partnerships is now done by corporations. A partnership is dissolved in law by the death of one of the partners, but a corporation lives on until its charter expires by operation of law. The property of a partnership is owned by the partners in proportion to the amount of capital each one puts into the business, and nobody but the partners themselves can lawfully control its management. One of the partners can not sell his interest to any person without the consent of the other member or members of the firm.

A corporation is based on a capital stock which is divided into shares, the shares being of equal value, usually $100 and upwards, in a large business, and the persons owning the shares may dispose of them at any time, to any person, at any price, by simply directing a transfer on the company's books. In this way the person or persons who own a majority of the shares of stock control the management of the business, and the corporation continues, notwithstanding the change of control or ownership.

The object of changing the old system of partnerships to the new system of corporations is to place business on a speculative basis. A owns 100 shares in a particular business and wants to sell them. Not knowing where he may find a purchaser he advertises and effects a sale. Stock exchanges are organized to assist persons in making such exchanges. The owner puts his shares "on the market" through a stockbroker. A person wishing to purchase stock puts his business in the hands of a stockbroker; and thus, through the bankers in the stock exchange, selling and buying shares of stock in corporations is kept up as a regular business.

Some of the great railway corporations are composed of thousands of shareholders. By watching reports of stock exchanges from day to day one will see quotations of railway and other stock, just as prices of wheat and cotton are quoted in reports of produce exchanges, boards of trade, etc.

It is common, under the new system, to start business with a comparatively small capital—just enough to launch the business—and then to sell bonds to increase the capital (water the stock) and strive to make profits on the whole at rates which, on paper, would be regarded as reasonable on any investment. The corporation is made to run a long time—ninety-nine years is a common period; often the term is unlimited.

This method of capitalization has been and is being applied to a great many different kinds and classes of business. It has passed beyond railways and canals. We now have gas, sugar, lead, cordage, rubber, and a hundred other branches of business capitalized in strong corporations. All of them are carried to greater or less extent on borrowed money. In such corporations the stock account represents the investment of shareholders; the bond account represents the company's debts. The bonds usually run a long time and bear high rates of interest, payable, principal and interest, in gold coin.

The ultimate object in this excessive industrial capitalization is to supply interest-bearing investments for speculators.

The bonded debt of the railroads in the United States is upward of $5,000,000,000, and their stock account is nearly as large. Not one of the companies, probably, expects to ever pay its bonded debt; the persons who own the bonds do not want them paid as long as the interest is forthcoming regularly. It is the interest only that induced the investment. And be it remembered that this bonded debt is a perpetual burden on the producing masses. Every debt of this character, every debt which may in any sense be regarded as a public debt, whether it be owed by a State, a county, a city, a railroad, or a great manufacturing or business establishment, must be paid, if paid at all, out of the net savings of the people who produce property. And the interest, as long as the debt remains unpaid, is an annual charge upon the labor of men and women who toil. There is no escape from it.

Every business which depends upon the public for support is, to that extent, a public business, and its debts and the interest thereon are charged up to the people in prices for the particular property dealt in. If a merchant is doing business on borrowed capital he must pay interest, of course, on what he owes, and the profits of his trade must be large enough to pay the interest and leave him a net gain for himself. He makes the interest out of his business; he must do it or he fails.

So it is with a manufacturer. If he is working on other people's money he must get his interest money out of profits on the goods he sells. The rule holds good in all departments of trade, even down to the cobbler and the village blacksmith. They draw their interest money out of their customers.

In the case of these highly capitalized (watered) industrial organizations their debts are perpetual burdens on the public, who must respond or they themselves are lost. It is thus made plain that what we denominate the money power in devising these methods of drawing usury indirectly from the producers have invented a process of extraction which can be neutralized only by national legislation.

Railway bonds running fifty years fix a half-century load on the people, and every bond represents a debt unfairly incurred. The stock account, if anything, ought in honesty and common fairness to justly represent the value of the road. And it would do so if the capital it is made to represent had all been paid in. The bonds represent a debt over and above the actual value of the road, on which alone freight charges ought to be based. The $5,000,000,000 debt of the United States railroad companies is all charged up against the people, who must pay interest on it twice a year out of their own earnings. The payment is forced from them through charges for passenger and freight fare. And railroads do business in every State in the Union; they were constructed, in theory at least, for the public convenience. Congress has exclusive jurisdiction "to regulate commerce * * * among the several States."

Other industrial organizations having large capital, though they may not appear to be so directly related to the people, are, nevertheless, so related, and are measurably subject to national legislation. If in no other way, they can be reached by taxation.

IMPROVEMENT OF THE MONETARY SYSTEM.

The concentration of the money power being, in the opinion of the subcommittee, the most powerful agency in depressing prices, it follows that the principal remedy—so far as this agency is concerned—consists in removing, as much as possible, the baneful influences of that power from the business affairs of the people; and in order that we may the more readily comprehend the nature of the remedy it is necessary that we consider briefly the nature of the thing from whose control comes the dangerous influences complained of. "The love of money is a root of all kinds of evil."

Money is the most subtle agency among the material forces of civilization. Its possession is power. So important is money that society could not exist beyond barbarism without it. To appreciate the importance of money, let us suppose that all money were abolished to-morrow. How quickly anarchy would come. Disaster, destruction, and ruin would follow. Advancement would cease, and all the progress of the ages would disappear as fast as the necessities of famishing men and women should drive them to desperation.

There is a very important element in money which can not be omitted if we would have a complete comprehension of its uses and functions, namely, the element of credit. Money is any device provided by law and used by common consent among the people to effect their cash exchanges and to pay their debts and taxes. Money represents credit as well as value—credit in its highest form—the very essence of the best credit—the credit of all the people organized. It will be suggested, probably, that gold and silver coins are money, actual money, wholly devoid of and apart from every element of credit.

To see that the suggestion is without force it need only be supposed that the Government should proclaim that hereafter gold and silver coins will not be received in payment of taxes and other public dues, and that such coins are no longer tender in payment of judgments in court and of private debts among the people. If it be objected that such a proclamation will not be issued, the answer is, the fact that its issuance would destroy the legal-tender quality of the coins and therefore render them useless as money, proves that the people's faith in the Government is worth more than the metal in the coins, and that faith is the Government's credit—the credit of the whole people organized in a nation—credit operating through metallic coins. A piece of money serves as an order and a receipt. It is an order on the merchant, the creditor, and the officer to accept it in satisfaction of the purchase, debt, or demand, and when accepted it is a receipt.

The use of United States notes (greenbacks) and of Treasury notes is a use of credit—the Government's credit, the credit of the nation, the joint credit at this time of nearly 70,000,000 people. If it be argued that the credit is based upon gold, be it so, if that view be preferred; still it is credit—the faith of the people that gold coin will not be discredited as silver coin has been. When the banks suspended specie payments in December, 1861, the Government was compelled to make money out of notes representing its credit. There was little gold in the national Treasury at the time—not enough to be of considerable service; and credit, the credit of the loyal people represented in the Government of the United States, had to be used, and the Government's notes, in many forms went out among the people, doing duty as money everywhere and in all transactions—not an atom of anything valuable about them except credit. And those notes were the only money the people had or used during twenty-five years.

By act of Congress, approved May 31, 1878, greenbacks, such of them as had not been retired, were required to be paid out again whenever received by Government officers and kept in circulation. That is the law now. The Government does not intend to redeem them except in the sense of exchanging coin for them whenever holders so request; and even then the notes must be presented in amounts of $50 or upwards. The intention is to keep them in circulation. No political party would dare propose a law now to retire them.

Still, it may be urged that, having resumed specie payments, we are now on a specie basis and that fact gives value and therefore currency to notes which are passing for money among the people. Considering the subject even in that light, it is the element of credit which controls and gives value to the paper. The Government has not been able at any time to redeem all its paper in coin, unless it use silver coin as well as gold. The common people are not demanding, nor have they ever demanded the redemption of Government notes in anything. What the people want is money, something that will be taken in payment of debts and taxes, and they are quite willing to accept and use the public credit. It is the speculators and great bankers that want gold redemption, and therein lies their power and the public danger. The men who own the notes, the mortgages and bonds, they want gold, while the people must use paper. A borrows $1,000 from a bank, or a loan agency, he receives it all in paper money though he promises to pay the debt in gold coin.

Here is a statement of the minimum debt of the people of the United States on the 1st day of January, 1890, as prepared by George K. Holmes, of the Census Bureau, and published in Political Science Quarterly, December, 1893:

Minimum debt of the United States, 1890.

PRIVATE DEBT.		
Quasi-public corporations:		
Steam railways (funded)	$4,631,473,184	
Street railways (funded)	151,872,289	
Telephone companies (funded)	4,992,565	
Telegraph, public water, gas, electric-lighting, and power companies (estimated)	200,000,000	
Other quasi-public corporations (to make round total)	11,661,962	
Total		$5,000,000,000
Private corporations and individuals:		
Real-estate mortgages (estimated)	6,000,000,000	
Crop liens in the South (estimated)	350,000,000	
Chattel mortgages (estimated)	300,000,000	
National banks (loans and overdrafts)	1,986,058,320	
Other banks (loans and overdrafts, not including real-estate mortgages)	1,172,918,415	
Other private debts (to make round total)	1,191,023,265	
Total		11,000,000,000
Total private debt		16,000,000,000
PUBLIC DEBT.		
United States	$891,960,104	
States	228,997,389	
Counties	145,048,045	
Municipalities	724,463,060	
School districts	36,701,948	
		2,027,170,546
Grand total		18,027,170,546

Here we have a debt of $18,000,000,000 owed by the people of the United States alone, and the total amount of gold money in the world, according to the Director of the Mint, January 12, 1891, was $3,727,018,869. Only about one-fifth as much gold money in the whole world as would pay the gold debt of this people alone. Now we can see why gold has become so valuable and other property so cheap. Debts payable in gold—a few men own or control the gold. The world of business lies at the feet of the money changers.

We have seen that only about 1 per cent of the business transactions of the people who have bank accounts is done with gold, and it does not need to be stated that people who have no bank accounts have no gold. Only 6⅝ per cent of the business is done with paper money of different kinds, and 92 per cent is done with individual credit.

But while checks, drafts, and notes may be good in bank, they are worthless in court or in settlement with an obstinate creditor. They are not money because they will not pay debts nor judgments; nor will they pay taxes either to the State or nation. They are not a lawful tender for any purpose.

And if a note or other obligation provides that the debt shall be paid in coin, no kind of paper money will discharge it. And if the stipulation is for gold coin, silver money will not pay it. The men who own or control the gold coin of the world are the world's rulers.

On page 15 of a work entitled Twenty-eight Years in Wall Street, this language is found:

> In fact, Wall street has become a necessity as a healthy stimulant to the rest of the business of the country. Everything looks to this center as an index of its prosperity. It moves the money that controls the affairs of the world.

Note the language. Those are pregnant words. Wall street does not own, but it moves the money that "controls the affairs of the world." Why should Wall street be permitted to move so much money not its own? Still more, why should the bankers and brokers of Wall street be permitted to move the money that controls the affairs of the Government of the United States and the business affairs of the people?

The banks of New York do an immense business. Their clearings aggregate upwards of $50,000,000,000 annually. This and many times more is *moved* by the great bankers of Wall street.

There were 3,796 national banks doing business at the close of 1893. Their capital was $683,598,120; and of the 4,837 State banks reporting at latest report the capital was $406,007,240. It is safe to put the gold reserve of these banks at $150,000,000. Many of the greenbacks are held by banks as "lawful reserves." The New York banks and other money-lending institutions of that city, bought nearly all the bonds just sold by the Treasury. They pay in gold, of course, and they have plenty of greenbacks and Treasury notes, whenever they wish to present them for redemption, to draw out all the gold they have just paid in. And the banks are now so well supplied with both gold and notes that they can speculate at will on the necessities of the Government, as long as the single gold basis is maintained. All the great nations of Europe are hoarding gold—some of them, Austria, Italy, and Russia, are buying it. The world's supply of gold coin is relatively decreasing every year, which occasions anxiety among gold-basis countries—this adds to the power of the men that "move the money that controls the affairs of the world."

The latest reports from the New York City banks show that they have upward of $100,000,000 money on hand in excess of their lawful reserves. It is not five months since (September 5, 1893) they had $38,280,000 worth of clearing-house certificates out in settlement of balances—that much of their own paper out in place of money. These clearing-house certificates were secured by "collateral," but the "collateral" was worth no more than the bank's own paper.

Narrowing the money basis to one metal, and that the dearer and scarcer one, drives the people to the immoderate use of individual credit, beats down prices, paralyzes business, discourages the working masses, and brings disaster on the country.

Enough has been said to show that practically a few men control the financial methods, and through those methods control the business affairs of the nation and of the people.

Our monetary system is unscientific, illogical, and impracticable. We are trying to perform impossible things. We do an annual business amounting to $100,000,000,000 and we are proposing to do all of it on a basis of $100,000,000, a ratio of 1,000 to 1, a business of $1,000 to be done on a basis of $1. To state the proposition is to show that it can not be maintained.

The remedy consists, first in widening the base by restoring silver coinage and supplying the rest of the money needed with full legal-tender Government paper, and in bringing the banking business of the country under Government control.

Our mountains contain large supplies of silver, and men and machinery are ready to perform all the work required to procure the metal. We have 5 mints fully equipped for coining large amounts and the people have faith in silver money.

National banks are now Government institutions, under charge of an officer at Washington. They were established for the purpose of providing a "national currency," and not to manage the Government's business. The notes they use and lend to the people are all prepared by the Government and are secured by the Government; when any of them fails, the Government takes charge of the business and settles with the creditors. The most important thing needed to make the national banking system perfect for this age is to place it wholly under Government control. Let the Government furnish its own paper instead of bank paper, pay the officers' salaries, the same as postmasters and other public officers are paid, and require them to lend money at 4 per cent instead of at 12 per cent, as the custom now is.

National-bank notes are redeemable in greenbacks. Why not issue the greenbacks in the first instance? National-bank notes are based on Government bonds, and the bonds represent the Government's credit—the same credit that is represented by the greenback.

The amount of paper money out at the close of the year 1893 was: United States notes, $366,681,016; Treasury notes, $153,160,151; silver certificates, $334,584,504; national-bank notes, $208,538,844, a total of $1,042,964,515, all of which is Government paper money in one form or another. The U. S. Treasurer shows in his last report that—

> The business of the Treasury has been conducted through the main office at Washington, the subtreasuries at Boston, New York, Philadelphia, Baltimore, New Orleans, St. Louis, San Francisco, Cincinnati, and Chicago; the mints at Philadelphia, San Francisco, New Orleans, Carson, and Denver; the assay offices at New York, Boise City, Charlotte, Helena, and St. Louis, and a varying number of national banks designated to act as United States depositories, there being 158 at the opening of the fiscal year, and 159 at the close. Each of these institutions held part of the public funds.

With this showing it is not difficult to perceive that but little change is required to make the national banks our faithful and obedient servants instead of remorseless masters, as they are under the present system.

Say the banks were doing a yearly business of $2,000,000,000 with Government paper and they charged interest at the rate of 4 per cent per annum. Two per cent would pay all expenses of conducting the business, and the Government would have 2 per cent profit—$40,000,000, a considerable item of revenue for the public treasury and an enormous saving to business men.

With a loan department for the accommodation of long-time borrowers at 2 per cent, which would net the Government 1 per cent; and with a savings' department where money in small amounts could be deposited and draw 2 per cent interest, our national banking system would be serviceable, profitable, popular, and safe. Business men could then afford to borrow and enterprise would show itself in every quarter. Farmers could safely use borrowed money at this rate, and persons whose homes are mortgaged could hope to pay out.

And this beneficent consummation would work a wholesome revolution in industrial conditions. It would encourage the people and restore confidence among them; it would insure the safety of bank deposits, and provide a good currency of equal value in all parts of the country; it would raise the level of prices, and place debtor and creditor on the same level; it would revive business and promote general prosperity. Its good influences would be felt on every farm and in every home.

All of which is respectfully submitted.

W. A. PEFFER,
Chairman Subcommittee.

APPENDIX 1.

TABLES RELATING TO DISPOSITION OF PUBLIC LANDS.

Statement showing land certified and patented each fiscal year under grants by Congress for railroad purposes, from 1862 to 1893, both inclusive.

Year.	Acres.	Year.	Acres.	Year.	Acres.
1862	597,129·10	1874	3,264,314·42	1885	1,153,950·00
1863	1,338,949·31	1875	3,107,643·14	1886	10[illegible],823·02
1864	857,180·87	1876	1,001,778·34	1887	196,034·98
1865	607,415·39	1877	700,791·96	1888	829,162·45
1866	94,596·99	1878	606,340·65	1889	435,046·02
1867	233,525·87	1879	278,334·11	1890	363,862·15
1868	697,257·57	1880	1,157,375·01	1891	3,088,679·23
1869	742,200·44	1881	1,049,440·76	1892	1,088,081·56
1870	996,685·28	1882	176,406·66	1893	1,726,179·95
1871	2,911,938·36	1883	477,740·24		
1872	3,554,887·58	1884	647,162·37	Total	40,164,450·35
1873	6,083,536·57				

Statement of the quantity of land entered under the homestead act of May 20, 1862, during each fiscal year, beginning July 1, 1862 and ending June 30, 1893.

Fiscal year.	Acres.	Fiscal year.	Acres.	Fiscal year.	Acres.
1863	1,040,988·51	1874	3,518,861·63	1885	7,415,885·53
1864	1,261,592·61	1875	2,356,057·69	1886	9,145,135·76
1865	1,160,532·92	1876	2,875,909·67	1887	7,594,350·16
1866	1,892,516·86	1877	2,178,098·17	1888	6,676,615·93
1867	1,788,043·49	1878	4,418,344·92	1889	6,029,230·26
1868	2,328,923·25	1879	5,260,111·29	1890	5,531,678·60
1869	2,737,365·05	1880	6,045,570·60	1891	5,040,393·72
1870	3,698,910·05	1881	5,028,100·69	1892	7,716,062·33
1871	4,600,326·23	1882	6,348,045·05	1893	6,808,791·56
1872	4,671,332·14	1883	8,171,914·38		
1873	3,793,612·52	1884	7,831,509·88	Total	144,964,811·45

Statement showing the quantity of land sold during each fiscal year, for cash, at and above the minimum price of $1.25 per acre, from July 1, 1862, to June 30, 1880.

Year.	Acres.	Year.	Acres.	Year.	Acres.
1863	91, 354 ·10	1870	2, 159, 515 ·81	1877	740, 686 ·57
1864	432, 773 ·90	1871	1, 389, 982 ·37	1878	877, 555 ·14
1865	557, 212 ·53	1872	1, 370, 320 ·15	1879	622, 573 ·96
1866	388, 294 ·15	1873	1, 626, 266 ·03	1880	850, 740 ·63
1867	756, 619 ·61	1874	1, 041, 345 ·46		
1868	914, 941 ·33	1875	745, 061 ·30	Total	18, 105, 479 ·21
1869	2, 899, 544 ·30	1876	640, 691 ·87		

Year.	Sales of land, private entry.	Sales of land under preemption laws.	Year.	Sales of land, private entry.	Sales of land under preemption laws.
	Acres.	*Acres.*		*Acres.*	*Acres.*
1881	666, 229 ·11	721, 146 ·26	1889	156, 272 ·85	2, 902, 028 ·15
1882	1, 924, 496 ·15	1, 351, 380 ·85	1890	38, 617 ·79	2, 204, 905 ·07
1883	2, 179, 955 ·14	2, 285, 710 ·35	1891	30, 955 ·50	1, 391, 413 ·31
1884	1, 550, 314 ·35	3, 206, 095 ·86	1892	15, 071 ·65	913, 782 ·94
1885	473, 023 ·84	2, 311, 296 ·71	1893	14, 819 ·96	718, 336 27
1886	632, 221 ·36	2, 279, 218 ·39			
1887	1, 523, 546 ·77	3, 172, 411 ·80	Total	10, 663, 025 ·03	26, 921, 032 ·61
1888	1, 457, 500 ·56	3, 463, 306 ·65			

The number of acres disposed of for cash from July 1, 1862, to June 30, 1880	18, 105, 479 ·21
Disposed of at private entry from July 1, 1880, to June 30, 1893	10, 663, 025 ·03
Disposed of under the preemption laws from July 1, 1880, to June 30, 1893	26, 921, 032 ·61
Entries under the homestead act from January 1, 1863, to June 30, 1893	144, 964, 811 ·45

NOTE.—The annual reports of the Commissioners of the General Land Office do not show the number of acres disposed of under the preemption laws and at private entry, separately, from 1863 to 1880, inclusive, both classes of entries being included in the aggregate area of cash sales, amounting to 18,105,479·21 acres, as per above statement.

APPENDIX 2.

LETTERS FROM FARMERS NOT RECEIVED IN TIME FOR INSERTION IN REPORT SUBMITTING TESTIMONY, LETTERS, AND STATISTICS.

[Wm. F. Kelso, The Kelso Farm.]

HALLOCK, KITTSON CO., MINN., *July 17, 1893.*

DEAR SIR: Replying to inclosed circular letter—

While there may be a lack of intelligent system and in cases indifferent cultivation, under existing prices of all farm products, other conditions in transportation, national taxation, monetary systems, etc., remaining in present condition, neither superior skill, judgment, or workmanship can make the farm return to its owner a satisfactory revenue.

With the decline in values the same excessive freight charges are maintained; incidentals, commissions, handling charges, arbitrary gradings rather increase. National taxation through the tariff, State and local exactions for public purposes, all increase a monetary system by which the farmer is removed from the center of distribution and is the largest interest payer while giving, generally, the best securities.

I favor an extensive inland water navigation system under national control and ownership, a radical reduction of the tariff, placing raw materials on the free list, a monetary system based on a standard that will give same the entire confidence of this people, also that of the other nations of the world, yet elastic enough to supply all legitimate requirements at a rate the same as the older countries enjoy.

I do not regard the statistical work of the Department of Agriculture as being of any vlue to the producer. The professional speculator is its beneficiary.

Theselling of futures I regard as giving an unnatural, unhealthy, and violently fluctuating market and not based on any system of sound business. It is the great Monte Carlo of the United States.

With respect,

W. F. KELSO.

Hon. W. A. PEFFER,
Chairman

I am a farmer, living on same, and in no other occupation whatever.

PONTIAC, MICH., *July 24, 1893.*

DEAR SIR: To further show you the condition of our farmers and the effects of the uncertainties consequent upon future tariff legislation, I will state that for the past eight or ten years I have bought wool a part of each season. This year I bought the clips of 286 farmers, or about 80,000 pounds, paying them from 15 to 18 cents for fine washed and 18 to 23 for medium or Shropshire wool; about 5 cents per pound less on an average than last year. I bought most of it at farmers' barns, giving them tickets for the number of fleeces and price per pound.

In comparing amount received with number of fleeces, I find the grower did not get $1 per head for his clip in over 50 per cent of the sales. This will not pay for the hay the sheep ate during the winter months, say nothing of the grain, pasturage, care, and expense of washing and shearing. Farmers can not long continue this branch of their industry and thrive, unless there is a change; and if unfriendly legislation compels them to abandon sheep husbandry, I think it the worst blow this country ever received. Farmers of either political party, of course, were not satisfied to sell at the prices, but were pressed for ready money and had to sell. In evidence of this I will say that out of all the checks given them not over 10 per cent of the money was left in the banks on deposit.

In many places there were no buyers of wool at any price, and sellers were obliged to go to some distant market to sell it at all.

If the confidence of the people is to be restored in regard to the future, it will not be in the prospect of having to send what little gold we have abroad for material and clothing to clothe our people and compelling the farmers to give up stock-raising and raise more grain for a living, thereby making matters worse by overproduction and still more impoverishing the soil with no means of restoring fertility except by fertilizers which they have no money to buy.

I have been breeding the American Merino sheep for the past twenty years, with many others in this State, and we think we have improved them so they are a sheep producing the most, best, and strongest clothing wool of any sheep on earth; and now it is too bad if we have to throw up the sponge and admit we have only succeeded in producing a little "raw material."

I have sold sheep to go to both South America and Australia, and from what I can learn I am confident we can not compete with those countries in the production of wool, if they pay nothing for the privilege of our markets. I think if the farmers are compelled to sell the products of their labor in competition with the world, those in other occupations should be treated likewise; for they, the farmers, do not form monopolies and trusts and have done nothing as a reason for being legislated against first.

I have never held any but a minor town office and am not a politician, but if I can give you any further information will cheerfully do it. Would be glad to have your comments.

Yours, truly,

P. VOORHEIS, JR.

Hon. W. A. PEFFER,
Topeka, Kans.

E. D. CHILDS, Crooksten, Polk County, Minn.

5. Do the farms produce as well as they did formerly? If not, what is the reason for the change, and when did it begin?

Answer. Yes, except as we have now and then a poor season. The crop of 1891 was the heaviest I ever saw raised in any county.

6. Has the value of farm lands in your State depreciated? If so, when did the depreciation begin, and what caused it?

Answer. Yes, in this section. Five years ago with the decline in the price of wheat, but has been most pronounced in this last year on account of financial stringency and poor crop with low prices.

7. If farm lands have risen in value, when did the rise begin, and what caused it?

Answer. Lands rose steadily in value from 1877 to 1888, caused by rapid settlement of the country and high price of our staple products.

8. Have the values of farm products in your State fallen in recent years? If so, when did the fall begin, what was the cause of it, and what articles fell most?

Answer. Some have fallen, some have risen. Wheat has fallen for the past five or six years. The cause of the decline perhaps you can tell; I can't. I can tell what I think is a principal cause. (1) Option trading. (2) The demonetization of silver. (3) The overcapitalization of transportation lines. (4) Trusts, monopolies. and class protective legislation.

9. If there has been a rise in prices of farm products, when did it begin, what caused the rise, and what articles rose most?

Answer. Pork has risen, supposedly from the effects of Rusk's treaty with Germany allowing its importation, scarcity, etc.

10. Do farmers of your State, themselves, cure and preserve the meats that they use in their families?

Answer. Not over one-half of them, so far as the summer months are concerned.

11. Do they produce and use their own fruit?

Answer. Fruit does not grow in this climate, except the smaller varieties.

12. Are the wheat and corn raised by your farmers ground at neighborhood custom mills, as formerly? If not, how do they procure their flour and meal?

Answer. No. The mills are nearly all "merchant mills," and take in the farmers' wheat, giving a stated number of pounds of flour in exchange for a bushel of wheat.

13. Do farmers in your part of the State raise more or less live stock than formerly? Whether more or less, what caused the change, and what classes of animals were subject to the change—horses, cattle, sheep, swine?

Answer. More of all the above classes, especially horses and swine. This section of country has been settled less than twenty years, and of course all this sort of thing is increasing, but for the past four years their attention has been turned more and more to animal husbandry.

14. Are the farmers raising sheep? If so, are the flocks numerous, and are they large or small?

Answer. Yes; to quite an extent, not nearly as much as they would if wool was bringing a fair price. Flocks range from half a dozen head to three or four hundred.

15. What effect, if any, has the interstate-commerce law on agricultural interests in your State?

Answer. Not a thing, as administered; a farce and a humbug from beginning to end.

16. What effect, if any, has dealing in "futures" and "options" had on the prices of farm products?

Answer. I think it has had a demoralizing effect.

17. Would you advise the discontinuance of the reports of the Department of Agriculture on the distribution and comsumption of farm products? and if so, for what reason?

Answer. So far as they anticipate the future, yes; when confined to showing crop acreage and averages for the past, no. So far as they serve to give pointers to "bulls" and "bears" and foreign purchasers they are in danger of being warped to suit the friendships, interests, or whims of the one who writes them.

18. How does the condition of the farming business in your State during the last few years compare with its condition in former years? If there has been any marked change, whether better or worse, when did it begin, and what caused it?

Answer. It is at its lowest ebb. Farmers are in despair; can not in many instances support their families, say nothing about paying principal and interest of debts or taxes. Began four or five years ago and has been growing worse ever since.

19. If present conditions of agriculture in your State are not satisfactory to farmers, what have you to suggest by way of relief through national legislation? What would you change? What abolish? What establish?

Answer. In the first place I would have Senators elected by popular vote, and so do away with Senators getting into office by buying up State legislatures. This would open the gate to "brains;" now it is "gold" that qualifies. I would adopt a modified tariff whose main purpose is revenue with "protection" as an incidental feature, but would have no tariff for the sole purpose of protection. I would have a national bankruptcy law, a bimetallic circulating medium. I would stop over capitalization and squeeze the water out of those stocks which are now watered. I would stop option gambling, enforce the laws against trusts, cultivate our trade with foreign countries, amend the navigation laws, and in all ways try to legislate for the masses instead of the few.

JOHN L. GIBBS, Geneva, Freeborn County, State of Minnesota.

5. Do the farms produce as well as they did formerly? If not, what is the reason for the change, and when did it begin?

Answer. They produce better grasses of all kinds, which is the foundation of all farm prosperity. The wheat crop for eight or ten years has not been as reliable as formerly, but it would require a long article for me to give the reasons, and perhaps the reasons would not be correct.

6. Has the value of farm lands in your State depreciated? If so, when did the depreciation begin, and what caused it?

Answer. Farm lands have not depreciated; on the other hand they have risen in value on an average of not less than $10 per acre.

7. If farm lands have risen in value, when did the rise begin, and what caused it?

Answer. The rise has largely taken place during the past three years. I think the political agitation during the past few years has been of such a character as to call the attention of the people to the real condition of the farmer, and the people have not been slow to perceive that farming is the best paying business in the United States. Also I think that the wise administration of President Harrison had its effect. During his administration the laboring men of the whole country, in all channels of industry, on the farm and in the shop, were working full hours and receiving good wages.

8. Have the values of farm products in your State fallen in recent years? If so, when did the fall begin, what was the cause of it, and what articles fell most?

Answer. The dairy product was never better than at the present time. The hog market is also good, better than it would be if the foreign market had not been opened to us. The wheat product is very low; perhaps overproduction is the cause. There has been but little change in other products of the farm during the past few years.

9. If there has been a rise in prices of farm products, when did it begin, what caused the rise, and what articles rose most?

Answer. Butter and the hog have risen in price somewhat during the past six or seven years. This is probably owing to the increase of population. The towns the world over, the consumers have increased in a greater ratio than production.

10. Do farmers of your State, themselves, cure and preserve the meats that they use in their families?

Answer. I think they do to a very large extent.

11. Do they produce and use their own fruit?

Answer. To a limited extent.

12. Are the wheat and corn raised by your farmers ground at neighborhood custom mills, as formerly? If not, how do they procure their flour and meal?

Answer. The grain is generally sold. Some farmers exchange grain for flour and meal, but this custom is going out of practice. Farmers like the best that can be had. They can get the best by buying it, and it is less trouble.

13. Do farmers in your part of the State raise more or less live stock than formerly? Whether more or less, what caused the change, and what classes of animals were subject to the change—horses, cattle, sheep, swine?

Answer. They raise less stock than formerly. Steers, horses, and sheep were subject to the change. Steers have ruled very low for a number of years. I can not give the cause. Horses are now lower than formerly, perhaps caused by other power being largely substituted for horse power in our cities.

14. Are the farmers raising sheep? If so, are the flocks numerous, and are they large or small?

Answer. I do not know a farmer who is increasing his flock. They prefer to sell. One of my neighbors who has a flock of over 600 head, was offered $3 per head last year. Fearing the defeat of the Harrison administration, I advised him to sell. He was not for Harrison and he ridiculed my fears. To-day he is looking for a buyer at $2 per head. The proposed tariff legislation will destroy the wool industry of the country and will benefit only a few importers. This country can not profitably raise sheep for mutton. I don't say but what this would be a gain to the world at large. Understand me, I have nothing to do with politics. I hold no office, and never expect to hold an office. I am simply giving my impressions.

15. What effect, if any, has the interstate-commerce law on agricultural interest in your State?

Answer. I can hardly tell. I am in favor of the law on general principles. It is a step in the right direction, but it would require a long article, for me to give my views.

16. What effect, if any, has dealing in "futures" and "options" had on prices of farm products?

Answer. This can only be a guess. I am not in accord with most farmers on this question. I think "futures" and "options" hold up and steady the price of grain, etc. Do away with "futures" and "options" and the farmer would be the loser.

17. Would you advise the discontinuance of the reports of the Department of Agriculture on the distribution and consumption of farm products? and if so, for what reason?

Answer. No. Continue the reports. Give us all the light possible.

18. How does the condition of the farming business in your State during the last few years compare with its condition in former years? If there has been any marked change, whether better or worse, when did it begin, and what caused it?

Answer. The condition is much improved. The farmers who manage their business so as to give employment to themselves and help, the whole year, are now doing well. The farmers of Freeborn County are more prosperous than are the business men of our towns. The careful and industrious farmers are all making money.

19. If present conditions of agriculture in your State are not satisfactory to farmers, what have you to suggest by way of relief through national legislation? What would you change? What abolish? What establish?

Answer. I say firmly that in this State where farming is carried on with intelligence and thought, that it is a good business, more successful than any other business in the State. What the farmer wants is laws that rest on all equally, that is all. Give him this and if he directs his efforts earnestly and thoughtfully he will succeed. Our system of farmers' institutes is doing a great deal to make good farming in this State.

J. B. DURAND, Prairie City, Bates County, Mo.

5. Do the farms produce as well as they did formerly? If not, what is the reason for the change, and when did it begin?

Answer. They have been reduced by selling off grain crops; are now feeding more stock.

6. Has the value of farm lands in your State depreciated? If so, when did the depreciation begin, and what caused it?

Answer. Very little.

8. Have the values of farm products in your State fallen in recent years? If so, when did the fall begin, what was the cause of it, and what articles fell most?

Answer. Very much since 1889.

10. Do farmers of your State, themselves, cure and preserve the meats that they use in their families?

Answer. Yes.

11. Do they produce and use their own fruit?

Answer. Yes.

12. Are your wheat and corn raised by your farmers ground at neighborhood mills, as formerly? If not, how do they procure their flour and meal?

Answer. Yes, a large per cent.

13. Do farmers in your part of the State raise more or less live stock than formerly. Whether more or less, what caused the change, and what classes of animals were subject to the change—horses, cattle, sheep, swine?

Answer. More. Loss in fertility of the soil.

14. Are the farmers raising sheep? If so, are the flocks numerous, and are they large or small?

Answer. None in this part to speak of.

15. What effect, if any, has the interstate-commerce law on agricultural interests in your State?

Answer. Something has produced a very bad effect.

16. What effect, if any, has dealing in "futures" and "options" had on the prices of farm products?

Answer. Our opinion is that it is bad.

17. Would you advise the discontinuance of the reports of the Department of Agriculture on the distribution and consumption of farm products? and if so, for what reason?

Answer. No.

18. How does the condition of the farming business in your State during the last few years compare with its condition in former years? If there has been any marked change, whether better or worse, when did it begin, and what caused it?

Answer. Marked change for the worse. We think bad legislation.

19. If present conditions of agriculture in your State are not satisfactory to farmers, what have you to suggest by way of relief through national legislation? What would you change? What abolish? What establish?

Answer. Increase the money by free coinage of American silver and further issue of greenbacks. Abolish protective tariff.

FRANK HOOVER (post-office address not given).

5. Do the farms produce as well as they did formerly? If not, what is the reason for the change and when did it begin?

Answer. No; on account of bad seasons, which commenced about seven or eight years ago. It has been too dry during this period just when crops were maturing; besides chinch bugs have never failed to put in an appearance just when least needed.

6. Has the value of farm lands in your State depreciated? If so, when did the depreciation begin and what caused it?

Answer. Yes; to about half or one-third; about five years ago caused by hard times which comes from a lack of money in circulation and bad crops.

8. Have the values of farm products in your State fallen in recent years? If so, when did the fall begin, what was the cause of it, and what articles fell most?

Answer. Wheat has fallen; so have hogs and cattle. This is undoubtedly caused by the manipulators of trade and not from overproduction.

9. If there has been a rise in prices of farm products, when did it begin, what caused the rise, and what articles rose most?

Answer. Hogs went up last winter; caused probably by great shortage.

10. Do farmers of your State, themselves, cure and preserve the meats that they use in their families?

Answer. Yes.

11. Do they produce and use their own fruit?

Answer. Yes.

12. Are the wheat and corn raised by your farmers ground at neighborhood custom mills, as formerly? If not, how do they procure their flour and meal?

Answer. Yes; ground at home mills.

13. Do farmers in your part of the State raise more or less live stock than formerly? Whether more or less, what caused the change and what classes of animals were subject to the change—horses, cattle, sheep, swine?

Answer. No; more and less of some kinds; not nearly so many breeding horses; in fact not the enthusiasm in stock business that there used to be; all on account of low prices.

14. Are the farmers raising sheep? If so, are the flocks numerous and are they large or small?

Answer. Some; flocks small and few.

15. What effect, if any, has the interstate-commerce law on agricultural interests in your State?

Answer. Can't see that it has any.

16. What effect, if any, has dealing in "futures" and "options" had on the prices of farm products?

Answer. Kept them down.

17. Would you advise the discontinuance of the reports of the Department of Agriculture on the distribution and consumption of farm products? And, if so, for what reason?

Answer. Can't say; I know very few farmers use them; hence can't be much benefit to them.

18. How does the condition of the farming business in your State during the last few years compare with its condition in former years? If there has been any marked change, whether better or worse, when did it begin, and what caused it?

Answer. Not nearly so good as formerly; caused by bad seasons, bad management, bad legislation, poor markets, and shortage of money.

19. If present conditions of agriculture in your State are not satisfactory to farmers, what have you to suggest by way of relief through national legislation? What would you change? What abolish? What establish?

Answer. Give us free coinage, better markets, and help, by distribution of better literature, that the farmer may learn better methods. Meetings, where they can exchange ideas and get new ones are unexcelled; but how to get them interested in them is a question. A good farmers' institute held once a year, in every county, of a week's duration, and advertised properly, will do much good.

BENJAMIN K. PEFFER, Carlisle, Cumberland County, Pa.

5. Do the farms produce as well as they did formerly? If not, what is the reason for the change and when did it begin?

Answer. Yes, better; through better cultivation and improved machinery.

6. Has the value of farm lands in your State depreciated? If so, when did the depreciation begin and what caused it?

Answer. Yes; about 25 per cent. Farm land nets about 3 per cent and money 6 per cent; it is more profitable to loan to farmers and take mortgages, which is fast eating them up.

8. Have the value of farm products in your State fallen in recent years? If so, when did the fall begin, what was the cause of it, and what articles fell most?

Answer. Overproduction and high railroad freight.

9. If there has been a rise in prices of farm products, when did it begin, what caused the rise, and what articles rose most?

Answer. Farm products have fallen; wheat most.

10. Do farmers of your State, themselves, cure and preserve the meats that they use in their families?

Answer. Yes.

11. Do they produce and use their own fruit?

Answer. Yes.

12. Are the wheat and corn raised by your farmers ground at neighborhood custom mills, as formerly? If not, how do they procure their flour and meal?

Answer. Sell wheat and buy flour.

17. Would you advise the discontinuance of the reports of the Department of Agriculture on the distribution and consumption of farm products? And, if so, for what reason?

Answer. No.

18. How does the condition of the farming business in your State during the last few years compare with its condition in former years? If there has been any marked change, whether better or worse, when did it begin and what caused it?

Answer. Not so profitable; farmers are not able to pay 6 per cent interest and live.

19. If present conditions of agriculture in your State are not satisfactory to farmers, what have you to suggest by way of relief through national legislation? What would you change? What abolish? What establish?

Answer. Reduce the rate of interest to the profits on our lands and we would not complain.

LETTER FROM A GRANGE.

HESPERIA, MICH., *December 23, 1893.*

DEAR SIR: The questions sent out last July by the Senate Committee of Agriculture and Forestry, relating to the condition of agriculture, found their way into the press of this State as well as others, and have been generally taken up for consideration and discussion in the various farm organizations in this locality.

At a late meeting of Hesperia Grange No. 495, "P. of H.," a committee was appointed to draft and report as to the questions in detail answers expressive of the sense of the organization. Inclosed herewith please find copy of the report as amended and finally adopted without a dissenting voice, and which I am instructed by vote of the grange to forward to you as chairman of the subcommittee, hoping and trusting that the right may yet prevail.

I remain sincerely and truly,

MELVIN W. SCOTT.

Hon. W. A. PEFFER,
U. S. Senate, Washington, D. C.

Questions 1, 2, and 3.

Answer. "Hesperia Grange No. 495, P. of H.," located at the village of Hesperia, in the county of Newaygo and State of Michigan, contains at the present time nearly 200 members, consisting mainly of farmers with their wives, sons, and daughters residing in the vicinity of said village, and have been engaged in "manual labor" as farmers from ten to forty years, most of them at the present time performing nearly all the labor on their respective farms, as the present price of farm products will allow but a very limited and careful outlay for hired labor.

Question 4.

Answer. Wheat, oats, corn, potatoes, hay, fruits, wool and mutton, hogs, horses, and cattle.

Question 5.

Answer. The production of farms that have been well tilled and properly handled seems to be generally satisfactory and on the whole is fully equal to the past, with perhaps a slight decline in the production of the wheat crop.

Question 6.

Answer. The value or selling price of farms has been declining for twenty years until they can hardly be said to be salable at any price. Occasionally a small 40-acre farm is sold to some one who wants it for a home. None others are being sold in this vicinity. Men who have money do not care to invest it in farm property, except in the immediate vicinity of large cities or villages where lands are held for speculative purposes. The decline began with and was caused by the contraction of the circulating medium of the country, followed and intensified by the demonetization of silver and the adoption of the gold standard, the depression still continuing as gold appreciates.

Question 7.

Answer. Though not as unsalable as *farm property*, yet the average selling price of *farm products* has fallen in keeping with that of land, and from the same causes.

As to what articles have fallen most, it is difficult to tell. Sometimes it comes in one line and then in another. Just now it is wheat and wool.

Question 8.

Answer. Generally they do, purchasing more or less fresh meats during the summer time from local butchers.

Question 9.

Answer. Yes; and in this vicinity exporting as much as they consume.

Question 10.

Answer. The mills will not grind wheat as formerly, usually known as "custom-work," but exchange flour and bran for wheat at their own figures, regardless of the local State laws regulating the same.

Question 11.

Answer. Less of cattle and horses—cause, falling prices. About the same number of hogs. For a few years past there has been an increase in the number of sheep, but since the recent "drop" in the price of wool and mutton, farmers are reducing rather than increasing the size of their flocks.

Question 12.

Answer. Farms in this vicinity are usually small, ranging form 40 to 160 acres; hence flocks are small. Most farmers, however, have been keeping all the sheep they thought their farms could carry, regarding them, at former prices, as the best paying product of the farm.

Question 13.

Answer. A tendency to equalize and reduce freight rates, and teaching railroad corporations the wholesome restraints of law.

Question 14.

Answer. The effect has been a fluctuating and unstable market price for farm products, making it impossible for supply and demand to govern the market, and leaving farmers always in doubt in regard to sales and shipments.

Question 15.

Answer. No; by no means. The producer (farmer) should be as well informed in regard to production, distribution, and consumption as the "dealer" and "middle man." He is then in a position to judge advisedly in regard to the future of prices. Without the "Government reports" he is at the mercy of those who are able to post themselves.

Question 16.

Answer. The contraction of and consequent appreciation of that which law designates as the medium by which labor and the products of labor are measured and exchanged means a depreciation either in the price of labor or of the products of labor. The decline in the price of farm property and farm products that has followed the adoption of the "gold standard" is but the results of a law as inevitable in its effects as the law of gravitation. The financial history of the world is filled with illustrations of the results of this law—a law that has never failed, never can fail.

To meet the results that followed the adoption of the "gold standard" "wage labor" has been thoroughly organized—able to hold its own, and let the blow fall upon the products of labor. Through these the farmer receives his pay; hence they very justly feel that the heft of this burden of deprivation has been thrown upon them. No; we are not satisfied with these conditions, because we believe they can and should be remedied.

Question 17.

Answer. (1) The passage of a law that will prohibit and effectually prevent dealing in "futures" and "options."

(2) The establishment of "postal savings banks." The effects would be lessons of economy for farmers, their surplus earnings better cared for, their deposits with the Government absolutely safe, profits from deposits accruing to the Government instead of bankers, and the country safe from panics such as they have recently been passing through.

(3) The immediate passage of a law restoring to silver the monetary position it occupied before its demonetization in 1873.

(4) That the circulating medium of the country be increased to and maintained at $50 per capita, and that it consist of gold and silver, with legal-tender notes redeemable in gold or silver, and the retirement as fast as practicable of all other forms of money.

M. W. SCOTT,
JAMES CALDWELL,
J. H. MACUMBER,
Committee.

APPENDIX 3.

THE RANGE-CATTLE BUSINESS.

AMES, NEBR., *July 11, 1893.*

DEAR SIR: I have the honor of transmitting herewith, as requested by you, a report on the present condition of the range-cattle business, and also a report on cattle feeding. Not being familiar with the form that should be used in making a report of this kind, it may be an error on my part not to introduce into the body of my report on cattle feeding such matter from the two papers by myself on cattle feeding as I should choose to have attached to the report. It did not occur to me that this report would be printed, but as I understand that this may be done I herewith mark passages in the two papers previously written, which may be attached to the report.

When the report of your investigations of this summer is printed will you very kindly send me a copy, as I am much interested in the result of your investigations?

Very sincerely, your obedient servant,

R. M. ALLEN,
General Manager.

Hon. WILLIAM A. PEFFER,
Topeka, Kans.

AMES, NEBR., *July 6, 1893.*

DEAR SIR: In answer to your request for a report on the present condition of the range-cattle business and the cattle-feeding business, I submit to you herewith the following brief account, which I trust will be satisfactory, although it must be accepted as the statement of one person only, my knowledge of the condition of things beyond the limits of my own operations and experience being based on hearsay, which is of necessity vague and contradictory.

As far as my knowledge goes the only United States report on the subject of the range-cattle business is one by Joseph Nimmo, jr., issued May 16, 1885, and addressed to the Secretary of the Treasury, in which will be found a correct and valuable account of its origin and condition at that time.

In early days Texas was the most important point of supply for stock cattle for breeding and ranching purposes for the entire Northwest, breeding cows having been driven as far as Oregon to form the basis of the cattle supply of that Territory. When I engaged in the business in Wyoming in the spring of 1879 the most northern location of cattle in Wyoming was that of Frewen Bros., at the head of the Powder River, where they received cattle for the first time that year. North of this there was a great vacant space to the British Possessions, occupied only by a few herds in Montana, altogether the most prominent being that of Conrad Kohrs. To the east the extreme northern ranches were on Hat Creek, a tributary to the Cheyenne River south of the Black Hills. There was, therefore, even at that time, breadth for great extension of the business to the north, northeast, and west into the Dakotas, Montana, and Idaho. All of this vacant range was filled with astonishing rapidity early in the eighties under the stimulus of the vast amount of capital that pushed its way into the business between the spring of 1879 and the autumn of 1886.

In the spring of 1879 was formed the Pratt and Ferris Cattle Company of Cheyenne; and in the years following the fresh capital of which I speak became engaged in the business by the purchase and combination of a number of different herds from their original owners, such a combination being formed into one single company. As a rule these companies began with the purchase of some one herd, and afterward acquired other neighboring herds for the purpose of controlling as much as possible all the range claimed by each herd. The control of range quickly became the most important feature and advantage of the business, and the acquirement of neighboring properties was compelled by the danger of their purchase by some other concern, which might make any one of such herds the basis for an aggressive operation of the business at any such point; and consequently competition for the possession of the range became active. Thus the competition for the range-cattle business took the form of a competition for the enjoyment of the use of the public domain, a franchise of great value as long as the soil yielded a sufficiently abundant crop of grass.

Until quite a late day, as well as I recollect some time after Mr. Nimmo's report was published, purchases of herds of cattle were made on a basis of the number of cattle exhibited on the books of the selling concern, an annual loss of about 3 per cent for winter's losses being usually allowed. The real losses were far in excess of this figure, and many a large concern was, after a series of years, brought to a realization of the fact that it had paid for twice, or more than twice, as many cattle as it had actually received. At the same time the price of cattle on the basis of count described, eventually rose to a maximum of $35 per head, the calves being counted as grown animals; and this price was obtained in the transfer of one or two large herds in Wyoming. At this price, should the shortage be as great as one-half of the number paid for, the real price would be $70 per head for the cattle actually received, or rather transferred, as such a herd might number 20,000 or 25,000 head of cattle scattered over a very large area, and would be transferred from one concern to another merely by the passage of papers, as no actual count of the cattle thus transferred ever took place. There were some cases of intentional dishonesty as to the number of cattle on the part of the seller, but as a rule this was not the case, and the eagerness of those desiring to engage in the business was such that it was not difficult to effect sales, and the buyer had the option of taking the cattle at the price and numbers offered by the seller or letting them alone; some other buyer would quickly present himself.

The feeling that this method of business was fundamentally unsound was strong even at that day, and, in fact, from first to last, there has always been a strong feeling of apprehension on the part of those engaged in the range-cattle business as to the length of duration of the business. When the entire range became sufficiently stocked, or overstocked with cattle, the business became exceedingly hazardous, as a dry summer, producing a small crop of grass, quickly eaten close by the cattle, followed by a winter of great severity, is always a possible contingency. About the time of the publication of Mr. Nimmo's report this apprehension became general in Wyoming and Montana, and was justified by the winter of 1886-'87, when, after two dry summers, there befell a season so violent and prolonged that in northern Wyoming and Montana at least one-half of all the cattle perished. Many herds lost 60 to 70 and even 90 per cent, and instances have been known in which certain bunches of southern steers, numbering perhaps several thousand head, were utterly wiped out. The magnitude of this disaster was incalculable, and resulted in the financial ruin of a very large number of persons, and the impoverishment, in a degree, of a very large section of the country. It is true that a number of persons since that time have done a profitable business in range cattle, principally in the ranching of steers on the ranges left vacant by the destruction of cattle in the winter of 1886-'87, and a number of others have led a lingering and crippled existence since that time, but it was nevertheless a mortal blow to a very large number of cattle concerns, and was the most important step forward in the change from the use of the public domain by large companies to a sounder business on a small scale, of which pastures and herding will be essential features.

In a limited number of cases, at the present time, the going out of business on the part of a number of concerns has vacated the range to a degree that admits of a renewal of vitality in those surviving, and this new lease of life has been enjoyed by a few for the last few years. Any one, however, who looks ahead must realize, and most cattlemen have always realized, that slowly and gradually the range companies will go out of existence, and finally the day will come when few or none will be left. Finally the only business that will be reasonably profitable will be the ranching of steers within a small and limited district or districts undesirable for the use of the settler, and where a few may remain perhaps long after all others have disappeared. Practically the range cattle business is to-day, in July, 1893, almost at an end for large companies. What I have said in the foregoing applies to Wyoming, Montana, Idaho, the Dakotas, and Colorado, and in order that this review may cover the ground as completely as possible I will take up the points of Mr. Nimmo's report to mark the changes that have taken place since he wrote, at the risk of repeating much that I have already said.

Beginning with the State of Texas, the present conditions of the cattle business have not changed very much since 1885; that is, the method of operating the business is to-day very much what it was in 1885, although now there is still less of the public domain of the State used as common pasturage. Almost all of the pastoral portion of the State is fenced into pastures, leaving in some places a few scattered and straggling strips of land between pastures, probably almost exclusively lying on that elevated plateau called the Staked Plains, which are still used by owners of small herds without paying any charge for leasing. The Texas pastures are generally made up of land, part of which is owned in fee simple by the operating company and the balance leased from the State or from individuals. The free-range character of the business which formerly prevailed is now almost completely extinguished, as I have myself this past spring been a witness in several visits to different points on the Staked Plains. Part of this free range still remaining is adjacent to New Mexico, which under the operation of different laws, is still largely a free-range country. A conspicuous feature of the cattle business in Texas since 1885 is the more complete occupation of the Staked Plains, and the largest herd developed has been that of the syndicate of capitalists who built the capitol of the State, who now own about 100,000 head of cattle on the lands they acquired by that transaction. This company also have a large number of steer cattle to the north of the Yellowstone River, northeast of Miles City, Mont.

The changes of the cattle business in Texas the last five years have been, as I have stated, the extension of the pasture business, and the adaption of the business to the supplying of young cattle for Wyoming and Montana, almost exclusively two-year-old steers, as for many years the northern country has bought no female cattle in Texas. Another feature is the adoption of the quarantine lines by the General Government, and by a number of the Northern States from the south and east of which line cattle may no longer be taken to the northern country, in consequence of the danger of communicating Texas fever. This has divided Texas into two portions, the northwest portion of the State being now able to send cattle to the North, which is done almost exclusively by rail. The eastern and larger portion of the State ship every year large numbers of cattle to the Indian Territory very early in the spring, which are marketed after a few months of pasture at Chicago and Kansas City.

Another feature is the very rapid growth, within the last three years, of the feeding of cattle, principally on cotton seed, which is proving to be of the greatest value to the State. The manufacture of cotton-seed oil and the feeding of cattle on the cake, and also the feeding of cattle on the seed itself, is to-day one of the most active and vital interests of the State, and is capable of great extension.

Referring to the matter of quarantine lines, it was found that the losses in Northern States, and especially States bordering Texas, became so alarming that gradually a rigid observance of the lines, as now laid down, has become necessary; and to-day the southern fever line is carried east to the Atlantic coast. These quarantine lines have undergone slight changes since they were first established, and every year certain herds that may lie actually on the line, or that range at a sufficiently high elevation immediately east of it, are permitted to cross it for transportation to the North; but the operation of a quarantine line has now become a custom and its rules are obeyed, although for a long time great objection was raised to it on the part of cattlegrowers to the south and east of it. The quarantine line has added a certain exclusive value to the ranges to the west of it, inasmuch as they only have access to the north, but not to as great an extent as would be supposed, as the Indian Territory, up to the present time, has been able to take a very large number of cattle from the eastern and southern portions of the State. Since 1885 the cattle business in Texas, as well as in all the rest of the range country, and the cattle-producing States of the corn district, has been, as a rule, very unprofitable. Mr. Nimmo's report was issued immediately after the climax of the business, and while it was being prepared, those engaged in it were still full of confidence and hope of a future profit. The business was at its highest point of prosperity, since which time it has suffered a continuous decline. Since 1885 the business has been marked by financial failures and lack of credit, although the number of persons engaged in it has not become very greatly less as rapidly as one would suppose, for the reason that a herd of breeding cattle is very difficult kind of property to dispose of; and at the present time all over the range country, both in Texas and elsewhere, there are many herds of cattle still under the charge of former owners, although now really the property of creditors who have loaned money for floating capital. As the statement of these facts describes fairly well the actual financial condition of the range-cattle business to-day, I shall probably repeat them again, as the financial condition of the business is conspicuously the most important feature to bring to light in its relation to the extent of the business in the future.

New Mexico and Arizona may be classed together. These two Territories are under the land laws of the United States, and the only land acquired in large bodies has been railroad lands and Mexican grants. For several years the two Territories have suffered very greatly from protracted drought, and as far as I have been able to gather from the evidence of those I have met, whom I have particularly questioned with regard to it, it may be stated roundly that New Mexico and Arizona have only about one-half the cattle they had from three to five years ago. The bulletins of the Department of Agriculture do not support this statement, and I do not speak with the same confidence as to Arizona that I do of New Mexico, of which latter I know something personally, having bought cattle there in person last year. One conspicuous fact well known to any one who has been in that section, is that great numbers of steers have been shipped to Montana the last few years, and great numbers of stock cattle to Kansas. I have myself bought cattle from both Territories, which has brought these facts to my knowledge. Female cattle in both these Territories are wonderfully productive, and the natural increase of the herds has been very great. Thus the country became overstocked and the ranges bare, and as the natural increase had been so great the grass had no chance to recover.

In certain portions the settlement has increased, and the construction of several very large systems of irrigation has withdrawn land from the range. This is the case on the Pecos River in southeastern New Mexico, and on Salt River, a tributary to the Gila, near Phœnix in Arizona. Eventually these irrigated districts will fatten many cattle on alfalfa and other foods, which is, in fact, being done at the present time on the Salt River in Arizona. This form of the business, however, is a step forward beyond the limits of the range business proper, and into the more civilized business of the future, and in speaking of the range business of New Mexico and Arizona we say that, as elsewhere, it has greatly declined, and a very large amount of capital has been lost in it.

Coming to Indian Territory, in the spring of 1885 the western part was occupied for range as follows: The Cherokee Strip was leased by members of the Cherokee Strip Live-stock Association and divided into fenced pastures. The Cheyenne and Arapahoe Reservation was occupied in the same way, and the Kiowa and Commanche Reservation was used by certain large cattle men in Texas, who afterward effected a regular lease. All these reservations have since been added to the public domain, as the Territory of Oklahoma, and in the course of a number of years a vast number of range cattle have been displaced thereby, and the business curtailed to that extent. In this displacement the financial ruin of a large number of operators came to pass. When the approaching settlement of the Cherokee Strip shall have taken place, this movement as to the western part of the Indian Territory will be complete, although, no doubt, this Territory of Oklahoma still supports a certain number of range cattle. No large operators, however, are engaged there. The eastern part of the Indian Territory, including the reservations of the Osages, Sacs, and Foxes, and the five civilized tribes, is used for the pasturage of Texas cattle as described above. In the spring of 1885 the Indian Territory was an important stronghold for great herds, and their displacement has been one of the most striking episodes in the decline of the business.

The State of Colorado exhibits a more advanced change from the old range conditions to a new order of things than any other of the range-cattle States, excepting Kansas and Nebraska, both of which are now completely excluded from the range business, as the herd law is in operation to the western limits of both these States. Under the herd law a cattle owner is obliged to keep his cattle off unfenced crops or stand a suit for damages for injury, which makes the range business at once impossible. In Colorado a small amount of range remains on the South Platte, and on the White River in the western part of the State; but the streams of Colorado have been largely used for irrigation, and the range has been occupied by settlers to a degree that has reduced the old range business to very narrow proportions. It is no longer a question as to the future of the range business in Colorado, as it has practically already gone out of existence; and in speaking of range business I mean generally only the business in cattle that are turned loose and are not in pastures, although in speaking of Texas I include cattle in pastures, as practically all cattle in Texas are in pastures.

Coming to the question of the capacity of the ranges for sustaining cattle, Mr. Nimmo's conclusion was that there was room for about double the number of cattle in Texas, and several times the number on the northern ranges that were on those ranges in 1885. The use of windmills and other artificial methods of watering cattle have been largely adopted in Texas, and yet the number of cattle in that State is very distinctly less than in 1885, probably not much over two-thirds, and elsewhere the number of cattle, instead of increasing, have largely declined. Some ranges are now probably understocked, but this is true only of a very limited amount of territory. There is a very great difference in years as to rain-fall and amount of grass grown, and the business can only be safely followed by carefully abstaining from fully stocking the ranges. The number of cattle on the range when Mr. Nimmo wrote was at its maximum, and has never been so great since, as the winter following his report cut down the number of cattle in the extreme north by one-half.

Regarding the expense of conducting the business, the cost per head for running the cattle on the range for this company for the eight years from 1885 to 1892, inclusive, for actual running expenses and taxes only, has been an average of about 45 cents per head per annum, this figure being obtained by dividing the expense account by the estimated number of cattle remaining on the range December 31. Much of the expense of any season is for beef cattle gathered for shipment, which are not included in this divisor, not being on hand December 31; and there is no expense at all for newly purchased cattle which are on hand December 31. Therefore, this method of figuring the expense per head is not accurate, but in a number of years approximate. This cost per head is considered a very small figure, and is less than that of most other concerns, which ranges probably from 60 cents to $1, exclusive of interest, cost of management, and other charges.

Regarding the profitableness of the business, it is my own opinion that a great general balance sheet of the entire range business from Texas to the British Possessions, for the last fifteen years, would show a debit balance. I do not believe that the sales of beef and value of cattle now on hand are equal to the originally invested capital and all expenses of interest, management, wages, and other sundries added to the loss of cattle themselves. This last factor is of sufficient value to have turned the scale, as the average loss in any herd in a long series of years is far greater than is usually supposed. There are living numbers of persons who have made fortunes out of the business, but such persons have generally retired from the business after the sale of their property at a high price, and the losses of their successors have generally been enough to make the combined business of the two unprofitable.

The winter of 1884–'85 was a very disastrous winter in the Indian Territory and northwestern Texas, and the losses from this winter had not been computed at the time Mr. Nimmo's report was published. This unusually severe winter was followed by the winter of 1885–'86, which was equally severe throughout the same district; and this was followed by the winter of 1886–'87 in the northern country. The losses of these three winters are almost beyond computation. The elevation of northwestern Texas and western Indian Territory is less than that of Wyoming and Montana, and the humidity greater. The grasses are ranker and more abundant, but as a rule do not cure as well in the fall, in consequence of which the winter feed has not the same value. This is partly repaired by a certain growth of winter grasses in the creek valleys in the Indian Territory, but not enough to make the Southern grasses as nutritious as the Northern in winter. For this reason very heavy losses from winter exposure are possible in the South as well as in the North. On account of the less nutritive value of the Southern grasses, and from all that country being stocked to its full limit, it has for many years been practically impossible to mature beef animals, and the large shipments of Texas cattle to the great markets are mostly used for canning. There are times when Texas grass beef is good enough to be used in the dressed-beef trade, in a season of abundant rainfall and plenty of fresh grass; and good beef may be shipped by persons who do not fully stock their pastures; but speaking broadly, what I say in relation to the consumption of Texas grass beef is true.

For a number of years the herds in New Mexico have suffered so severely from drought that it has been practically impossible to ship any beef cattle from this Territory at all. The full-grown steers that are shipped to Kansas City must be used for feeders. Many Arizona steers are shipped to California, either as feeders or after having been fed on alfalfa in Arizona.

During the last eight years there are doubtless persons who have continuously made some money out of the cattle business, but for the majority of cattle men it has been a period of loss and disaster; the main features being the overstocking of all ranges in the beginning, both North and South, and consequent tremendous losses by winter exposure, combined with a period of low markets. All this has resulted in the retirement from business of a very large number of concerns. Foreign and Eastern stockholders have become disgusted and weary of a business where things have appeared to be continually changing for the worse, and the only reason that a far larger number of concerns have not gone out of the business is that it has been difficult to liquidate the affairs of such concerns owning such property as stock cattle, which are useful for the purpose of breeding food animals, but which are, generally speaking, not food animals themselves. The officers and managers of the range companies also have naturally been continually buoyed up with hopes of a change for the better, and have preferred to take chances of an improvement rather than submit to their stockholders a plan for settlement involving a certain loss. A number of concerns have closed out their affairs by the shipment of all their cattle to market, where the breeding cows and young cattle, the result of years of labor and careful breeding, have been sold at ruinous prices, only a fraction of what they would be worth on a good ranch.

The financial unprofitableness of the business has been almost universal over the whole range country, excepting northern Wyoming and Montana. In that section a number of concerns have done a profitable business on the range vacated by the great losses of the winter of 1886–'87. Some of the operators in this district have been able, by good judgment, to make large sums of money by the purchase of remnants of the great herds left from the hard winter, but this manifestly is not a powerful argument in favor of the profitableness of the business even in that district. Probably the losses in this locality, which is by far the finest grass region of the entire range district, and which produces beeves good enough for direct export to Europe, will not again be as heavy as they were that winter, because the Southern steers destined for that country are now transported there by rail, except that a few large concerns in the Pan Handle of Texas have continued every year to make large drives on the trail; the saving of expense for large numbers of cattle being very great. The past winter of 1892–'93 has been very severe in Montana, although at the present time it is said that the severe losses have been confined to the country north of the Yellowstone to the British Possessions. A Montana cattle man told me the other day that at his ranch for six days the thermometer had not risen above 40 below zero. I have several friends and acquaintances in northern Montana, and from the best of my information I believe the losses to be 30 to 50 per cent.

In the April report of the statistician of the Department of Agriculture the losses from winter exposure in Montana are placed at 0.4 of 1 per cent, and the losses from all causes at 5.1 per cent, which suggests that a more perfect system of compiling these figures would be valuable if such can be found. The average losses in Montana, in my opinion, are far in excess of those indicated by the Department. One cause of loss for a number of years, especially in Wyoming and Montana, has been the great increase in the number of gray wolves, which have destroyed an astonishing amount of property. No person outside of that country would believe that they could have inflicted such serious losses. Their depredations have been worse with settlers or small stock owners, who have their stock confined to pastures, as the animals confined therein are unable to escape from their destroyers. The State of Wyoming last winter passed a bill paying a bounty of $8 per head for wolves, and very considerable numbers have been killed since the law went into operation. It is probable that losses from this cause will hereafter be less.

The question of cattle stealing has become, the last few years, a very serious matter, especially in northeastern Wyoming. As might reasonably be expected, there has always been more or less thieving of a class of property which is turned loose in a wilderness where no one can watch it. Cattle stealing has always prevailed to some extent in every range country, and has only been inactive in some new district occupied only by large concerns who were doing a profitable business. The actual settlers in the range country do not live merely upon the edge of it adjacent to the country under cultivation, but are generally scattered about, being most numerous, of course, in places where the valleys and streams have offered them the most attractive places for the exercise of their homestead and preemption rights. Large herds of cattle, therefore, are always exposed to the stealing of such settlers as may kill them for food, and as on the rude frontier it is hardly regarded as a crime to take such cattle for food, the aggregate loss from this cause is considerable. The worst thieves, however, are cowboys who have been discharged from the employment of large concerns, and it not unfrequently happens that cowboys steal from their own employers. These men are reared under rude conditions, and while many of them are the most faithful and hard-working of men, there are, also, many of desperate and lawless character. Many of these who have been discharged on account of suspicious acts, remain in the vicinity of their former employer, and frequently marry into the families of settlers who may be in their vicinity. Thus is created about and in the midst of the great herds a class of people hostile to the idea and theory of a large amount of property under one ownership.

The methods of cattle stealing were so widely advertised during the troubles last year in Wyoming that it is unnecessary to mention them in detail, and it is sufficient to say that all the methods known have been widely practiced the last few years, and at the present minute they are all in active operation in Wyoming. I am now actively engaged in fighting this trouble, and I mention as a sample that within the last two weeks several cowboys, having no property in cattle, have taken from a portion of our own range 50 head of mavericks, which they had secured previous to the passage of the roundup in that district, to the town of Sundance, where they sold them to a settler at a low price. It is impossible to conceive that a lawless condition of things, in which the idea of guilt, when applied to the stealing of cattle from large companies, has become very dim, can long prevail; but, at the same time, the cattle owners in that section are not able to say to-day that they feel certain that they will come out winners in this struggle.

In a late visit to Texas I discovered that this same class of desperate thieves, of a number of whom I have personal knowledge from my residence in that country, are committing the most atrocious robberies on the cattle property of actual settlers of moderate means. The trouble became much complicated last year over the outcome of an expedition of cattle men against thieves in Wyoming, which was maliciously misrepresented as an effort of cattle owners to wrest from the settlers the land which they possessed. It is unquestionably true that these thieves will steal from the owners of small herds or bunches when they find it convenient to do so, and they will eventually be overcome by the owners of such property. The trouble, however, is most difficult to cure, and I believe that it will be years before the stealing of cattle will be reduced to an endurable point.

Referring to the remarks of Mr. Nimmo as to the relation of the range cattle business to the public domain, I do not think that at the present time any one would contemplate an effort to control a large amount of range by acquiring land along streams under the various laws of the United States, and for many years as far as I know there has been no attempt to fence up any large portions of the public domain. There is no such struggle for the possession of the range as formerly, for the reason that the business is now only a remnant of what it formerly was, and so many have gone out of it that the competition for range has for several years been quiet. In certain sections settlement appears not to have made any advance to speak of for a number of years, while in others it has advanced very greatly. In the latter case the cattle men have been obliged to retire from the field, and in districts where settlement has been stationary the herds have had sufficient range without contending for it.

A review of Mr. Nimmo's report in the New York Nation brought out a number of letters from persons living on the plains, the general opinion of which was that agriculture without irrigation west of the one hundredth meridian of longitude could not be successfully practiced, and that it would be found that the amount of rainfall would not continue to increase in its course westward after a certain elevation had been reached, as it has always been supposed to have increased year by year in the country from the Missouri River westward to the one hundredth meridian. This increase of precipitation has not been regular, but has advanced in waves, sometimes receding, and in this case causing great loss and suffering to settlers on the frontier. The general conclusion as to the nonadvance of the rainfall west of the one hundredth meridian has been upheld by experience to some extent and in some places, but not by any means completely. Thus there are settlements for agriculture without irrigation up to the western limits of Nebraska and Kansas, and even into Colorado; by which I mean that locations in this district have been made on the divides and uplands, remote from streams and impossible of irrigation. At the same time the success of such settlement has been so checkered and uneven that we find extensive schemes for irrigation to the eastward of country where settlers have located for agriculture without it. I have myself noticed within a few weeks many thrifty-looking settlements and farms along the line of the Union Pacific Railway between Pueblo and Denver, all of which settlement is on a high ridge, incapable of irrigation.

The appearance of this country indicated that there were many springs, and I understand that a considerable district to the northeast of Colorado Springs is susceptible of agriculture without irrigation, and is pretty well settled. Therefore, the struggle by the settlers for the occupation of the arid district is active, and it appears likely that the plains in Colorado and western Nebraska and Kansas will be more completely settled up than we may now realize. In speaking of the arid district people forget that it is everywhere rolling, the depressions being the innumerable feeders to the streams. These depressions begin as mere draws, then soon become little valleys, then broader, and finally the valley of a broad stream, like the Arkansas or South Platte. The frontier settlements creep up these small valleys until they reach the limit of sufficient moisture. Irrigation has made great strides in Colorado since 1885, and it is impossible to predict the limits of its advance in the future as new discoveries are applied; for instance, the collection and use of water flowing under the sandy bed of a river. There is, therefore, a broad belt of country stretching north and south, and including eastern Colorado and western Kansas and Nebraska, where the struggle for a foothold on the soil is still going on.

In Texas settlement for agriculture without irrigation has barely passed to the westward of the one hundredth meridian, the conditions being more favorable in the northern than in the southern part of the State; but it appears that such agriculture can hardly be practiced farther west than now. We may, therefore, state the present situation as to occupation of the arid district by settlers, considered in its effect upon the possible area to be used by the range-cattle business, to be as follows: Although the one hundredth meridian may be taken as a line marking the average limit of agriculture without irrigation, the real limit is variable in different years, and the true line is one of wide departures, both to the east and west of this meridian, a zigzag line following the variations of soil and altitude. I certainly consider all agriculture without irrigation west of the one hundredth meridian uncertain and hazardous, and believe that eventually, and wherever possible, irrigation will be practiced farther east than now. In any event, settlement, although shifting and uncertain, has greatly advanced in the arid district since the publication of Mr. Nimmo's report, and a very large fraction of the range-cattle business has been displaced thereby. I do not see how anyone can doubt that this movement will continue.

The sheep business has of late years been successful and aggressive in Wyoming and Montana, and has already wrested much range from cattlemen. This is a business which can be easily engaged in by persons who can not control the capital necessary for large operations in cattle, and has only to increase to displace cattle, as on the ranges occupied by sheep the cattle business becomes too hazardous and it is difficult to make beef cattle. There is no portion of the Northwest that I know of where it would be possible for a cattleman, even with unlimited capital, to control streams to an extent necessary to exclude sheep. Mr. Nimmo, probably not being personally familiar with the range country, does not understand that it is not only in the main streams that water is found, or even in the principal tributaries to these streams. The lesser tributaries are innumerable, and their length far greater than anyone would imagine. In times of drought these lesser tributaries become dry, when all cattle are compelled to water in the main streams, but such times are really infrequent, and it is practically impossible to secure water courses to a degree sufficient to exclude from the range any persons who may wish to locate there with moderate herds of cattle or sheep.

I think that in the future irrigation and agriculture will become greatly extended in the range country, and that the spaces of upland between such cultivated land will be used for the grazing of live stock on natural grasses, but not on a large scale. Such live stock should belong to the settlers who till the nearest land. In certain sections conditions are very unfavorable to the extension of irrigation where works can only be constructed at great cost, and in such portions of the country the range-cattle business will be practiced long after it has elsewhere disappeared. It may, perhaps, be possible in some places for a strong company to prolong its life by the purchase of the most valuable locations on streams, but to-day the range-cattle business is so far reduced in importance from what it formerly was that there are connected with it no more problems to engage the attention either of the State legislatures or the Federal Congress. There is no good reason to doubt that the States in which the range business has been followed will in the future be able to produce more beef than now under a system of small herds.

R. M. ALLEN.

Hon. WILLIAM A. PEFFER,
Topeka, Kans.

APPENDIX 4.

ON THE FEEDING OF CATTLE.

AMES, NEBR., *July 10, 1893.*

DEAR SIR: In answer to your request for information on the present condition of cattle-feeding in the corn States, I submit herewith two newspapers containing articles written by myself on the subject of cattle-feeding, in addition to which a few brief remarks on my part will be all that is necessary.

The common methods of feeding cattle that have prevailed in the corn States are too well known to need description again. I think that the present method of feeding cattle on corn, with the addition of hogs to be fattened on the waste corn in the droppings of the cattle, will doubtless be the prevailing mode of feeding cattle in these States for a long time to come. For the last seven years, however, during the period of excessive supplies of cattle, much of the feeding of cattle by this method has been unprofitable; and although it seems likely that the price of finished beef cattle will in the future be higher on an average than for the last seven years, the farmer who buys cattle to feed will in all probability have to pay all or a portion of this profit to the person of whom he buys his cattle to feed. The function of the cattle-feeder is properly that of a middleman, or perhaps more properly that of a manufacturer, and the margin between a thin animal and a fat one will always tend to adjust itself to a fixed ratio. The business of cattle-feeding is on so great a scale that competition in the purchase of feeders is always active. That portion of the great farming community who feed cattle have adjusted their business to this end. There is a certain fixed capital in the shape of permanent pastures, feed lots, barns and other facilities and arrangements for feeding cattle which must remain inactive and idle unless the owner of the farm shall put it to the use for which he intended it. This is the reason why for a number of years we have at times noted that the price of feeders is almost as high as that of finished cattle.

A legitimate part of the profit of feeding cattle, and the more important part, is the increase of price on the original steer. It is impossible to meet the expense of feeding cattle by realizing on the amount of new flesh put on. If we buy a 1,000-pound steer at $2.50 per cwt., or $25, and sell him at $4.50 when fat, we obtain an advance of $20 on the original steer. If we put 300 net pounds on this steer, which are sold at $4.50, we get $13.50 for the gain in weight, a total of $33.50. Our average cost for food and labor for six years was $24.50, and if this be taken as the cost of feeding the steer, it is seen that the sale of the gain in weight does not nearly equal the cost of feeding.

My investigations into the cost of feeding cattle have led me to try to discover some method for effecting a considerable reduction in the cost of food, believing as I do that we are not likely to see again a low average cost of corn. I am at present experimenting in the use of several different kinds of food, viz, corn, ensilage, roots, and the pulp from a beet-sugar factory; and, as you know, I have in contemplation a plan for the construction of a factory at this point, as part of a general scheme for the feeding of cattle on beet pulp at the Oxnard factories.

My estimates of the cost of feeding cattle on beet pulp lead me to think that it will be possible, by its use, to effect a reduction of the cost of food in fattening cattle, as compared with the old-fashioned methods of outdoor feeding, of about 35 per cent. The only really valuable figures that can be made in this matter must be made after I have had experience on a large scale for a number of seasons, and not previous to such experience, but as we have fed about 33,000 cattle at this station in the last seven years, our estimates for the future, of course, have some value, as they are based on our experience of the past. Our operation of this station has always involved great cost, and I have exhibited on our tables for six years items of cost, other than food and labor, to the amount of $125,000, out of $880,000, which $125,000 was 14 per cent of the total cost. Our labor account of $86,000 was 10 per cent of the total cost, and all food was 76 per cent. In the operation of a business where economies can be effected in these items of cost other than for food, the cost of food would be a higher percentage of the whole, and, therefore, the value of a reduction of the cost of food would be greater when applied to the average of cattle in the corn States than it would have been in our own experience.

In following out the line of my own investigations and speculations as to the future of the cattle-feeding, the whole matter is so interwoven with the culture of the sugar beet and the manufacture of sugar therefrom, that it is not easy to keep out of this paper the subject of the sugar beet, about which you have not asked me for my opinion. In this climate I am, after many years' experience, returning to the idea of barn feeding, to which there is this objection, in the case of business on so large a scale that the cattle can not be removed from the barn to exercise, that the conditions are in that case not entirely natural, and the gain in weight made is less than when the animals are at liberty. The amount of food, however, eaten by animals in confinement, is less than is eaten by those feed outdoors, and I hope I may be able to solve the problem of the construction of a barn in which large numbers of cattle may be fed, and yet which will admit of their getting some exercise.

At present the great advantage for feeding cattle of the farming country west of the Missouri lies in the low cost of hay, but as our agriculture changes to meet the demands of an increasing population the area of hay land in this district, which is now very great indeed, will become less, and the advantage of this low-priced food will be lost. Although the transportation of agricultural products for long distances is cheaper than in any other country in the world, distance is a factor that can not be annihilated, as the price of our products is almost entirely controlled by their price in England, where our surplus is mainly consumed, upwards of 4,500 miles from the district in question. We must bear in mind that these conditions will prevail until we cease to export food products. And even when exports shall cease we shall doubtless continue to be the producing region for the eastern half of the country.

The population of this section of the country is now rapidly increasing, and it will be seen that an increase in population will be accompanied by some problems which were not present in the development of such States as Iowa, Missouri, and Minnesota. The reason for this is that the country rapidly rises in elevation west of the Missouri, and the soil becomes lighter. It is claimed of irrigation that it renews the soil, and partly supplies the place of artificial fertilization, but in the section where agriculture is carried on west of the Missouri without irrigation, although it is a very new country, agriculture is even now subject to great variation of yield after an elevation of 1,500 feet is reached. At a higher elevation than this the soil becomes lighter, and there is a very large area of sandy country, ranging all the way from a sandy loam, which can be cultivated with the best results in a favorable season, to extensive sand ridges, which are not fit for cultivation. The extent of the country I am speaking of is very great, and although in good seasons excellent crops of corn, and especially of small grains, are raised, there are more failures of crops in a long series of years than in the Mississippi Valley proper. This is the result of natural causes, and will always be true. Therefore, the country west of the Missouri will, in time, have to face the problem of the exhaustion of the soil, and must determine the best means of its renewal. In the Mississippi Valley the rotation of crops and the use of clover and pasturage are the effective means of renewing the soil. West of the Missouri the same means can be used up to a certain altitude, but beyond that it is doubtful if the use of clover for the renewal of the soil will be satisfactory. In the course of nature, and without the adoption of some effective means for the renewal of the soil, I anticipate a gradual decline in the yield of all grains in this district, which I regard as certain to result in the comparative poverty of the people, when their number shall have greatly encroached on their means of subsistence.

The culture of the sugar beet and the manufacture of sugar can greatly assist in preserving the prosperity of this district, because it involves the rotation of crops and the most careful agriculture. The future of cattle-feeding may be considered as part of the question of the culture of the sugar beet, as the feeding of cattle on pulp, by effecting an economy in the production of beef, will naturally accompany the establishment of factories. It has been discovered in France and Germany that the number of food animals has enormously increased with the growth of the sugar beet, and doubtless this country, although at present a great point of supply for beef animals, will increase its production of beef by the use of pulp. In my own experience this year the planting of sugar beets has led to the planting of forage beets, in the use of which, for the production of beef, there is an unlimited field. It is, then, in the use of these foods that I expect to see the production of beef develop in the future.

The past season has been the most profitable season for the cattle-feeders of the corn States, taken as a whole, for the last seven years. In the spring of 1891 prices were slightly higher, but in that season the cost of food west of the Missouri was so great that feeders in this section did not make very much money. There was also a short period of good prices in June and July, 1888. Speaking generally, however, since the summer of 1886, the market for corn-fed beef has been greatly depressed by excessive supplies, and to an extent that has discouraged cattle-feeders. The prospect for the future is that the price for fat-beef animals will be higher for a number of years than the average for the last eight years.

The cost of fattening cattle on corn and other grains is very great, and I am satisfied that many of our cattle have cost us as much as $40 per head for the food they have eaten while being fattened. In my mind, the scientific method of feeding cattle lies in the greatest possible use of pasturage, roots, and other coarse foods, and in a smaller use of grains. In outdoor feeding in the Northwestern States, in the winter months, it is necessary for cattle to have a very large portion of grain, although they thrive and fatten well at a very low temperature if furnished with a reasonably effective shelter against the wind. Full-grown steers will easily eat 28 pounds or half a bushel of grain, or even more, which at the rate of 28 cents per bushel or 50 cents per cwt. for corn, amounts to a cost of 14 cents per day for the grain alone. It is desirable that part of the grain portion shall be of more nitrogenous food than corn, and this will cost about 1¼ cents per pound for such grain. When the price of corn rises to 50 or 60 cents a bushel the cost of a day's ration to a steer in outdoor feed lots becomes very expensive indeed, and this increased cost of beef, applied to all the cattle fed in the corn States, reaches an enormous figure. In our experience of six years the lowest average cost of food for any one year was $13.79, and the highest cost $32.05, a difference of $18.26; the high cost of beef in the season of 1890–'91 being caused by the short corn crop of 1890. I am unable to give the total number of cattle fed and marketed in the corn States, but if we assume it to be 1,000,000, which I imagine is smaller than the actual number, and apply the difference in our experience between the lowest and highest cost, the result is $18,000,000. This exhibits, although it can not be taken as a correct figure, the great additional cost of producing beef in the seasons of scarcity.

I would like to refer you, for further information on this subject, to the special report of the Bureau of Animal Industry on the diseases of cattle, and cattle feeding. Prof. Henry, of Madison, Wis., is one of the most noted of American students on animal nutrition at the present time, and I refer you to his remarks on this subject on pages 456, 457, 458, and especially to the remarks on page 459 and following pages.

It is not necessary that all cattle should be fed in the same manner, and the old-fashioned form of feeding will in all probability continue to be the most economical for farmers who grow their own corn, and who live at a distance from a market to which they would haul their corn if not fed, and whose labor for feeding is performed by themselves. The custom of summer feeding in pastures where cattle are also fed grain is greatly practiced to-day throughout the West, and is a favorite method of feeding as compared with feeding hay and grain in winter. Many cattle, however, must be fed in winter, to consume crops of rough fodder which mature in the fall, and by the use of roots or ensilage with these coarse fodders a great saving may be effected in the use of grain, and a consequent cheapening in the cost of beef. In the experiment of feeding cattle last winter we effected, by the use of ensilage and beet pulp, a great saving of the amount of grain previously fed in our experience. These cattle were slaughtered in Chicago, and a favorable report as to the percentage and quality of the beef was made by Swift & Co.

There is so much excellent matter written with regard to cattle-feeding, by live-stock journals and by experiment stations, that I offer this statement as to the present condition of cattle-feeding with much diffidence, believing, however, that the theory I have advanced as to cattle food will come into practice in the future.

R. M. ALLEN.

Senator W. A. PEFFER, *Topeka, Kans.*

The following is an extract from one of the articles referred to in the foregoing letter. It was printed in Western Resources, February 20, 1891:

I have never been able to enumerate the qualities that are necessary to make a successful feeder. At first sight it would appear that to give cattle sufficient food for a time long enough to make them fat should be simple enough, but as a matter of fact more than this is required, and few men make a steady and uniform success of it. There are, however, men who almost always make money at it. The reason is that few men are good judges of cattle, which is the main point. During these last few years it has been necessary to make cattle very thoroughly matured and finished to get anything like a respectable price. In fact I think it a hardship for feeders to be put to the expense of these finishing touches, for it costs a great deal and it seems to me that several dollars a head are wasted in such a winter as this, for looks. The appearance of the cattle on the market cuts a great figure, their uniformity of size and condition. Animals of fine quality showing plainly the points of the great breeds sell easily at the top; while what the stock-yards people call "old-fashioned cattle," short of body and with upright horns, are habitually murdered on the market even when very fat.

These "old-fashioned" cattle, the common natives, do not dress well, and certainly are not attractive to look at; and it is in this that the westerns have an advantage, for they kill exceedingly well and yield a greater proportion of eatable flesh to the carcass.

The proportion of fat cattle on the market of the very highest grade is an exceedingly small one. The high grade Shorthorn, Angus, or Herefords are generally fed and finished by the men who breed them, and a feeder can not easily buy such to feed for they are seldom in the market as feeders. Such cattle are worth being brought to the highest perfection, but common cattle, well enough fed to furnish excellent beef, we ought to be able to sell after feeding three to five months. When supplies of fat cattle are somewhat reduced so that we have again a healthy and active demand, I think these cattle will sell well enough to yield their best profit without making them so unreasonably fat. It is well known that the rate of gain is higher from the time they are put on feed up to a certain point of ripeness than after that time, but of late years supplies of cattle have been so abundant that buyers are able to be very exacting, and really good cattle go begging because they are not in advanced stage of fatness, which is not necessary for a good, useful, staple article of food.

I have never been one of those who lay the low price of cattle at the door of the great slaughtering companies. Without question they have taken advantage of every possible point in their favor, and they are like all buyers—bears on the market. The buyers in their employment work under rigid orders, and their purchases are carefully scrutinized. Whether there is any agreement or not between the great packers, they certainly have had no temptation to fight with each other for cattle, and no doubt they have kept out of each other's way, since there has been more than enough cattle for all of them When good cattle get scarce, as I devoutly hope they will before many weeks, it will be very gratifying to me to see the dressed-beef men begin to look a little anxious; but I really think they have been a little abused for the last five years. Some of the charges against them have been absurd and ridiculous. The contest about them has raged for years with great acrimony, leading to Congressional examinations and committees of inquiry; but all this has led to nothing except to give some statesmen a chance to pose before their constituents as friends of the farmers, and at this time operations against the dressed-beef monopoly have apparently naturally died out. My opinion is that much of this movement has come from an inherent tendency in many men to lay the blame for their misfortunes on some cause outside of themselves or natural conditions. We can all realize that it is not easy for the Government to obtain thoroughly reliable statistics as to the actual number of cattle in the country now available for the beef supply. Year after year we have seen receipts on the market larger than those of the year before, and I am not satisfied with the claim made by some that these large receipts are caused entirely by the concentrating of the business at a few points; in fact I believe that there is still more slaughtering done throughout the country districts than some persons claim.

When men set all their intelligence and a vast amount of capital at work breeding a certain kind of animal they can breed them with extraordinary rapidity, and I am of the opinion that we have been suffering for years because our cattle became too numerous from over production and not from any other cause. I am not by any means an advocate of the business of slaughtering cattle being confined to a few great concerns, and I should be glad if we could see a hundred slaughtering establishments instead of four or five; but as the tendency of modern business is in the direction as the concentration into large companies, as capital can generally be more economically used in that way, I do not know that we are likely to see the number of cattle-slaughtering concerns largely multiplied. I have lately been informed in several letters from Fort Worth Tex., that they have at last established there an abattoir which seems likely to succeed, and I sincerely hope it will. It will benefit every farmer in Nebraska to have at least a portion of the Texas cattle withdrawn from the Chicago market. Texas shipped to Chicago last year 616,000 head of cattle out of total receipts of 3,500,000. This is in addition to cattle killed in Kansas City and St. Louis. If this business is able to grow and flourish at Fort Worth, it will be money in the pocket of every one of us from now on. Texas is a wonderful cattle country, and the breeding of cattle is well suited to the temper and habits of her people who are very skillful in it. It will always be a cattle country, and therefore it will be a great gain for us if she can kill her own cattle at home. For many years they have persistently followed up their project of securing a good harbor on the gulf, and a recent Congressional appropriation of $6,500,000 for Galveston harbor marks an important point.

It may be that the course of export to Europe from the country west of the Missouri River will be partially diverted to this route, which has in its favor a short haul by rail to the tide water, and in the course of time we are likely to see the competition of Texas in our cattle markets removed by the successful operation there of one or more cattle-slaughtering concerns. It is not usual for cattlemen to air such views about the Big Four, but I believe what I say, and I am satisfied that what I now say in February will be quite clear by June if the receipts of cattle fall off as they now promise to do. Some persons will never be convinced that they are not robbed by monopoly. I heard one such declare that the sharp and active rise in cattle in June, 1888, which had effect till November, was only a ruse of the soulless corporations to lure cattlemen into making continuous shipments. Cattlemen, as a class, must be watchful that those who buy our cattle do not obtain any permanent and unfair advantage over us; for if such a thing were possible it would surely be done. Commercial life is a battle, and those who buy will fight for the lowest price they can possibly secure. But I think that sellers of cattle are vigilant, and I believe we suffer no more than naturally results from the fact that for years the advantage of supplies has all been on the side of the buyers, which has enabled them to force the market down with better success than would otherwise have been possible.

The following matter, also referred to in Mr. Allen's letter above, is an address delivered before the Nebraska Breeders' Association, and printed soon afterwards in the Dodge County (Neb.) Leader of the 24th day of February, 1893:

CATTLE FEEDING.—A PAPER READ BY MANAGER R. M. ALLEN, OF THE STANDARD COMPANY, SHOWING WHAT IT COSTS HIS COMPANY TO PUT FAT ON BEEVES.

Ladies and Gentlemen of the Nebraska Breeders' Association: The matter of cattle rations is so fully and ably discussed by directors of experiment stations, and other investigators who have facilities for experimenting with more precision than can be done by any private persons, that I will at once narrow this paper down to a brief discussion of cost and profit and loss. The only precise figures I have in this are, of course, from our own experience. That of others I know only in a general way. Therefore, I trust I shall be excused if I seem egotistical and assume that the experience of our own concern is interesting.

We have fed on our farm and sold in six seasons, ending July 31, 1892, 30,992 cattle, having lost a fraction over 1 per cent by death from all causes. The cost of food and the labor of feeding the cattle, alone, has amounted to $755,000 or $24.51 per head. The lowest cost for any year was that of the winter of 1889–'90, after the great corn crop of 1889, which was $17.57 per head. The highest cost was in the winter of 1890–'91, when it was $34.72. These figures include freight charges on food to the amount of $42,000, which is not a legitimate charge in cattle-feeding, and would not have to be borne by the average farmer who may feed cattle. On this basis, which may be assumed as the standard of reckoning that would be used by a farmer in calculating whether he could afford to feed or not, we have come out a little ahead, notwithstanding that in our early years our performance was unskillful and the results on the cattle themselves not very satisfactory.

The only advantage we have had in feeding on a large scale has been that of our ability to sort out shipments for market in a proper manner, so that we were able to get all our cattle were worth when we sold them. This function is generally performed by a local buyer; but I would suggest that a group of farmers living near each other ship their cattle together, making up car-load lots of such cattle as may be in proper condition for shipment. Let them arrange for one of their number who may be best suited for the task to take charge of the cattle in transit and watch their sale. Such a man would soon get the necessary education, the cattle would be properly marketed, and a saving would result to the whole group of farmers.

Outside of this question of marketing, which, of course, is very important, I think we have been at a very great disadvantage compared with other feeders. From our own experience I should think that reasonably good feeders in the last six years should have made both ends meet. No doubt some have steadily made money, and always do, but from the universal lamentations that appear in all the live-stock journals, and from such facts as we know of each other's business, we are bound to believe that the feeding has, generally speaking, been unprofitable. The truth is that there is a very wide variation in results. First, because the market generally fluctuates enough to make a difference between profit and loss, which then becomes a question of luck, depending on the time when a man may sell his cattle; and, secondly, because of the widely different ideas of feeding on the part of various feeders. All persons who think they can feed cattle by giving them only part of what they should have to eat, or who allow any carelessness in method, may be counted out at once, as they are not entitled to make a profit under any conditions; but taking into consideration only those who know how to feed cattle, and who do the best they can, there is still a large element of chance as to profit or loss.

I have been interested in this business only since 1886, and know little of how things were previous to that time, but it appears that before that, as a general rule, cattle-feeding was more uniformly profitable and must have admitted of a much larger margin of profit. For the future I do not believe we are going to see a large margin of profit, and it behooves us to study the best methods and conditions of feeding with great earnestness and assiduity in order to retain the ground which our State now holds in this important industry.

The cost of making beef includes, among other things, the cost of raising corn, which I put at 20 cents per bushel at the present day in Nebraska, allowing 13 cents for seed, labor, horse feed, wear and tear, and other charges, and 7 cents for interest on the land. The cost of raising corn naturally depends largely on the yield, and this calculation is based on an average of 35 to 40 bushels per acre and the interest at 7 per cent on land valued at $35 or $40 per acre. The difference between the cost value of corn at 20 cents and its cost to us for six years has amounted to $175,000, and counting all kinds of grain and oil cake as corn, it has amounted to $221,000. Here is clearly seen the natural advantage of the farmer who can raise his feed and the one who must buy.

In the cost of hay we have no complaints to make, as 33,000 tons of hay that we have fed in six years cost us only $2.25 per ton, and this includes a great deal of high priced hay, some as high as $14 per ton, and also includes the rent of a considerable amount of hay land that we have leased from other persons.

In our first year we made a very poor gain on our cattle, being inexperienced, and since that time we have made an average gain of 250 pounds after the cattle have been shrunk by transportation to market; and as our cattle have been of all classes and ages, and of both sexes, I think this result is good enough. Our average feed has been 201 days, which includes a preliminary period of pasture and cornstalks. We have fed an average of 57 bushels of grain to each animal.

People do not always arrive at the same conclusions, but in feeding on a large scale I should certainly feed ground feed instead of whole corn, and if I wished to carry hogs, I would feed them what they might need in addition to what they could pick up. I do not know that this applies to all locations, or to feeding on a small scale, but as far as my experience goes I am entirely in favor of ground feed. I do not believe in trying to make common cattle excessively fat, and think we should try to make such cattle good, decent killers at the least possible expense. We have, this last fall, made some very decent beef of some very common old cows, mostly on cut shocked corn, with no hay at all. Allowing $1.50 per ton for the stalks we find that we harvest the corn for about 6 cents per bushel, and deliver it cut and in good shape for feeding in feed boxes before the cattle. This is certainly a very cheap way of making beef as long as the weather remains good.

We have used in six years 1,170,000 bushels of corn at an average cost of 34 cents, 46 cents being the highest for any one season and 18 cents the lowest, and of all grain, including oil cake, we have used 1,400,000 bushels of corn at an average cost of 35 cents. In our own experience of the total cost of feeding cattle, including all charges other than those for food or labor of feeding alone (which in our case have been very heavy), corn has been 54 per cent, and all grain 68 per cent, hay 8 per cent, labor, coal and horse feed 10 per cent, and all other charges 14 per cent. All our cattle have cost $4.66 laid down at market, and of this $4.66 corn alone has amounted to $1.27 and all grain to $1.59.

We have made on the farm 7,428,000 pounds of gain at a cost of 10 cents per pound for the gain made, for food and labor alone.

The feeling is strong that corn, in the future, will be too valuable a grain for making beef, and this is my own view to a certain extent, though we can be sure that corn will be the great feed stuff for a long time yet. We should, however, try to make a larger use of pastures, roots, etc., to be partially independent of corn, which is subject to great fluctuations of yield and value which too profoundly affect the results of feeding. We should try to produce beef at a cost that will not vary so much, which can be done by a smaller use of grain and a larger use of some other things. It has always been my own ideal to reduce the cost of making beef by the use of cheap food rather than by a saving of labor, partly because with large numbers of cattle it is not possible to effect a saving of labor which would reduce appreciably the cost of making beef. The saving must be made in the food. I am at the present time engaged on this problem.

It is certainly true that at no previous time has the question of animal nutrition been so thoroughly investigated as now, and there is no excuse for any intelligent person to be ignorant of certain simple principles that will make it possible for them to feed cattle intelligently and cheaply.

This feeding can, on the whole, best be done on farms where small numbers of cattle are handled. There is no temptation for capital to engage in this industry on a large scale, and in the future I believe it will find even less encouragement than in the past. The great obstacle to a fair, general success in feeding in a State like our own, where so many farmers are comparatively new to the business of handling live stock as we do in this country, is their real ignorance of live stock and feeding them. We have, of course, plenty of good stockmen, but the valuable point is to educate the farmers of our State who are not already good stockmen to such a point that they may know enough about the matter to be able to make money out of it, in order that the happiness and intelligence of the community may be promoted. This will never be more than partly realized, as so large a portion of the human race seem incapable of doing good work, but the amount of good that can be done by advancement in this as well as all other branches of agriculture is so inconceivably great that it deserves all our efforts.

APPENDIX 5.

SORGHUM AND THE MANUFACTURE OF SUGAR.

SORGHUM IN KANSAS.

A correspondent of the Louisiana Planter and Sugar Manufacturer, writing from Medicine Lodge, Kansas, under date August 22, 1893, said:

"We are now within about three weeks of the opening of the working season at the sorghum sugar mill. Although many fluctuations in the prospects of the crop, owing to the exceptional drought with occasional insufficient showers and the ravages of the chinch bugs, have taken place, we are now sure of a crop of about 50 per cent of an average.

"The tests which have been made of sample canes point to an encouraging increase of the percentage of sucrose in the plants.

"The latest of these, made on the 15th and 16th instant, showed 15 per cent and 16 per cent sucrose, which at this early period is evidently satisfactory.

This gives ground for hoping that the average sugar content of the sorghum cane is gradually approaching the maximum test of 22.8 per cent, which was made last year on the Government station here.

"But for exceptional circumstances before referred to the effort which was made this year to prolong the working season by the early maturing of the crop would have been eminently successful, as the earliest variety of cane, Early Amber, although too light in tonnage to warrant a commencement at the mill, has been fully ripe for some days already. An ordinary amount of rainfall would have produced a crop of the latter variety sufficient to have enabled the mill to commence running by the middle of the present month, or three weeks earlier than any former season.

"Notwithstanding the drawbacks, it is confidently expected that the output of sugar this year will exceed that of any previous season, and will establish the industry of the manufacture of sugar from sorghum cane on a permanent basis."

MEDICINE LODGE (KANSAS) SORGHUM SUGAR FACTORY.

Letter from the proprietor of the Sorghum Sugar Factory at Medicine Lodge, Barber County, Kans.

MEDICINE LODGE, KANS., *September 14, 1893.*

Senator W. A. PEFFER, *Washington, D. C.*

Speaking from observations, I fully believe that in course of a few years sorghum will lead over beets, and is certainly most adapted to Kansas weather, as the climate in southwestern Kansas is too dry for the successful raising of sugar beets, while under ordinary conditions sorghum can be produced every year.

The history of sorghum is not long, and until 1882 nothing in the way of sugar producing was attempted, I believe, and then failures were the result. In 1887 five or six mills were built for sugar making, but all except Fort Scott and the one here are now closed; but the results last year, while not profitable in any degree, gave such good prospects for the future developments that both plants this year are again working and hope to show results that while no profit on capital can be looked for, for the present, the industry seems to be one for improvement, and when once fully established will become permanent. I believe I am correct in stating that in 1885 the yield of sugar per ton of cane worked did not exceed 40 pounds to the ton. Every year showed a slight improvement and last year our production here was 125 pounds sugar from every ton of cane worked.

In my mind it is not so much a mechanical matter—sugar making from sorghum—as an agricultural one, as during the last five years the per cent of sucrose has been increased 6 to 8 per cent. This is due to careful seed selection and improved cultivation as carried on by the Government at their experimental station at Sterling and this point (which it is to be hoped will not be discontinued by Secretary Morton). While sorghum sugar will compare in richness and test as high as cane or beet sugar, up to the present the product has never sold within ¾ cent to 1 cent per pound what has been obtained for the cane or beet sugar, and sorghum, therefore, has been placed at a great disadvantage by this discrimination in prices. The reason, I presume, has been that sorghum sugar has, up to the present, been looked upon as a mere nothing and handled accordingly by buyers. This year, however, there seems to be quite a demand for the same, which is most encouraging and gives prospects for the future.

From careful calculations made it is stated that 140 pounds of sugar must be obtained from a ton of cane to clear expenses of operating a factory. This includes the bounty; so that while the loss is still too much to call the business a success at present, should the United States bounty be removed it would at once stop all work in this line. Our chief hopes are that, confining the selecting of seed and improving the plants for cane, in the near future an established breed of cane can be had that will produce sugar in increased quantities, and then the success of the business will be assured. When one sees what has been done in the past six years with sorghum in Kansas, it does not seem unreasonable to hope that in another six years sorghum will rival tropical cane and beets, which have been for the last 50 years under careful hands and improved to their present standing; and had sorghum had such attention given to it it would without doubt be now in advance of either of these sugar producing plants.

Yours, faithfully,

THOS. BEST.

SORGHUM SUGAR PRODUCED IN KANSAS.

	Pounds.
1884	1,943,000
1885	1,100,000
1890	1,500,000
1891	570,000
1892	500,000
1893	934,172

APPENDIX 6.

MATTER RELATING TO SUGAR BEETS AND THE MANUFACTURE OF BEET SUGAR.

AMERICAN AND GERMAN BEETS.

The following dispatch was printed in the Omaha Bee August 27, 1893:

Leads European industries—Views of an expert on Nebraska's beet sugar factories.

NORFOLK, Aug. 26.—(Special to The Bee).—Mr. Carl Hager, from Berlin, a gentleman of large wealth and the editor and proprietor of the German Beet Sugar Industry in Germany, has, for the last three days, been at Norfolk, riding through the country, talking with the farmers and looking at the beet fields. The Bee reporter met Mr. Hager and had quite an agreeable and pleasant talk, in which he very freely expressed his surprise and amazement at the rapid growth that seemed now to be positively promised of the beet sugar industry in the United States. He expressed himself as much pleased with Nebraska, as well as very many States through which he had passed, and the development of the beet sugar industry, and said: "The manufacture of sugar from beets is the greatest industry that could come to your country. It enables your farmers to produce from ten well-cultivated acres of beets more money than they can possibly expect to realize under advantageous circumstances from 100 acres of corn. It will bring to you very many emigrants of the better class, it must enhance the value of your land, and it frees the farmer from producing a crop that is attended with speculative influences. I notice that your cereals are largely dealt in a speculative way, so that the poor farmer is seriously handicapped by the wealthier; while in the culture of beets the contract is made before the seeding, and the large or small crop does not affect the price per ton.

"This year I hear that the price of your wheat is very low, caused by the large crop; also the price of corn; so that where the speculator knows this he really robs the producer of the benefits to be derived from good work and a good season.

"I have seen many beet fields around Norfolk and they are very fine. Some of them will produce twenty tons to the acre, and the price paid by the factory is very much higher than they pay for beets in Europe. There is room in your country to build 1,000 factories and it would take fully that number to supply your consumption, and long before such could be built you would want still more.

"I am very much pleased with my visit and find the factory at Norfolk a very fine one, well equipped and managed and the farmers much pleased. I have visited the World's Fair for several weeks and am now on my way home to Berlin."

The paper issued by Mr. Hager is the official paper of entire Europe on the beet sugar industry and undoubtedly he will tell those people of the great advantages that he has seen in this country.

Beet-sugar production in the United States in the years 1891 and 1892.

1891.

	Pounds.
Utah	1,094,900
California	8,175,438
Nebraska	2,734,500
Total	12,004,838

1892.

Utah:	
Utah Sugar Co., closed December 19, 1892	1,473,500
California:	
Alameda Sugar Co., closed December 8, 1892	2,506,860
Western Beet Sugar Co., closed January 27, 1893	11,390,921
Chino Valley Beet Sugar Co., closed October 28, 1892	7,903,541
Nebraska:	
Oxnard Beet Sugar Co., Grand Island, closed November 19, 1892	2,110,100
Norfolk Beet Sugar Co., closed November 9, 1892	1,698,400
Total	27,083,322

This shows an increase of 125 per cent in one year, and the increase was (estimated) about 100 per cent in 1893 over 1892.

Total consumption of sugar in the United States.

	Tons.
1880	960,764
1885	1,298,380
1890	1,476,377
1891	1,888,851
1892	1,813,563

Willett & Gray make the total consumption as follows:

	Tons.
1890	1,522,731
1891	1,872,400
1892	1,837,626

INCREASE IN CONSUMPTION OF SUGAR IN THE UNITED STATES—PER CENTAGE AND PER CAPITA.

1883, 10 per cent increase; 1884, 7 per cent increase; 1885, nominal; 1886, 9 per cent increase; 1887, 2·7 per cent increase; 1888, 4·6 per cent increase; 1889, 1·2 per cent decrease; 1890, 5·8 per cent increase; 1891, 22·9 per cent increase; 1892, 1·8 per cent decrease.

The per capita consumption they give as follows:

	Pounds.		Pounds.
1885	49·9	1889	52·6
1886	52·5	1890	54·5
1887	52·1	1891	67·4
1888	54·2	1892	64·3

COST OF PRODUCING BEETS FOR SUGAR.

Commercial Agent Washburn, writing from Magdeburg under date of March 30, 1892, says of the cost of producing the raw material for beet sugar:

"In estimating the various items of expense entering into the cultivation, the question of wages must be assigned a leading place. So important is it that many Germans of experience freely express the opinion that the relatively high rate of wages in the United States must effectually prevent the United States from ever being a dangerous competitor." Against this, however, are our cheaper lands. The wages in Europe vary, men receiving all the way from 45 to 85 cents a day, women from 30 to 60 cents, and children from 10 to 20 cents. He also notes that the employment of women and children makes the saving very considerable. He makes the cultivation abroad to cost 130 marks, or $49.50, per acre, while Licht makes it only $41.88; the average between the two would be $45.69. With this cost per acre abroad, the only way the German farmer gains an advantage at the lower price of beets there is in his superior cultivation, an increased tonnage, and small wages paid.

Mr. E. H. Dyer, of the Alvarado factory in California, makes the cost per acre of beets $46 and profit to farmer per acre $29, less land rent. The Utah Sugar Company at Lehi, Utah, makes the cost per acre $39 and the profit to the agriculturist $20.54. The Nebraska department of agriculture makes the average cost per acre $33 and profit about $67, with beets at $5 per ton, and the board cites the details of cost given by seven farmers where the average cost per acre was $44.85 and average profit per acre about $57. In these seven statements the gross return per per acre is given at from $80 to $122, showing probably increased yield from superior cultivation, because the item of expense for cultivation is put down at a figure considerably beyond that given by the other six farmers. But the only way, with labor cost against them, in which our farmers make their showing so liberal is in the price ($5 per ton) they are paid for beets. Abroad the price runs from $3.50 to $4 only.

Among the very successful sugar-beet farmers on the Chino ranch in California are the Gustafson brothers, Louis, Victor, and Charles. The Gustafson brothers went to Chino three years ago without capital and commenced farming on their own account, doing their work thoroughly. They bought 20 acres of choice land west of Chino for $175 per acre, and on this they made the last payment last summer. They have paid for it from beets raised on the land.

They kept a careful itemized account of their expenses on the 20 acres of beets for 1893, including their own work, which they counted at $1.50 per day, and which amounted to $275. From 20 acres they harvested 436 tons, for which they received an average of $4.50 per ton. The figures are:

Gross returns, 436 tons		$1,962.00
Plowing 20 acres	$40.00	
Harrowing twice	12.00	
Seed	30.00	
Seeding	8.00	
Thinning	80.00	
Cultivating twice	12.00	
Weeding	20.00	
Topping	108.00	
Plowing out beets	40.00	
Hauling to factory	174.00	
Tare and factory expenses	60.20	
Total expenses	584.60	
Net profit	1,377.40	
		1,962.00
Net profits per acre		68.87

COST OF BEET SUGAR.

The cost of beet sugar to manufacturers in the United States differs, because it depends on the difference in cost of material and of labor, regard being had for location of factory, cost of freight, etc. Abroad the cost of producing beet sugar per ton or pound is from 25 to 50 per cent less than it is here, and this is principally so because labor that costs here 75 cents and $1.50 a day can be obtained there for from 20 to 80 cents, and beets, for which $5 per ton are paid here, cost only $3.60 and $4 abroad. These two factories are the more material ones. For instance, in France the expenses on a ton of beets were as follows:

Expenses per ton of beets.

Bresles factory in France:	
Beets	$4.00
Coal	.51
Coke and limestone	.24
Labor	.50
Lighting	.03
Bone black	.04
Commission on sales	.06
Oil and grease	.03
General expenses	.16
Freights	.08
Maintenance, repairs, insurance, etc., during idle season	.80
	6.45
Grand Island factory in Nebraska:	
Beets	$5.00
Coal	.80
Coke	.18
Limestone	.15
Labor	1.57
Lighting	.07
Oil and grease	.04
Bags	.20
Mechanical filter bags	.02
Mechanical filter cloths	.04
Sundry operating expenses	.17
Commission on sales	.04
Discount	.42
Freight of material	.24
Maintenance and repair of factory during idle season of ten months in a year, with taxes and insurance on same	1.87
	10.81
Total, France	6.45
Total, America	10.81

Average yield of sugar per ton of beets, 165 pounds; cost, per pound, 6$\frac{5}{10}$ cents in Nebraska. Average selling price, 4½ cents.

In 1892 the actual cost of production in Nebraska, at Grand Island, was 6 cents; in 1891, 6½ cents; in 1890, 7 cents. Showing that in three years the cost of production has been reduced 1 cent per pound.

Reducing the cost of labor to what it is in France (50 cents), and the cost of beets to $4, the total expense on a ton of beets would be $10.81, minus $2.07, or $8.74. On this basis the cost of beet sugar here would be about 5¼ cents per pound. The figures as to cost of beet sugar, as given by the Watsonville factory in 1888–'89, are as follows:

Freight to San Francisco	$2,936
Coal	17,267
Coke	1,658
Fuel oil	11,356
Wood	990
Lime rock	1,780
Sugar bags	1,740
Soda	12
Tallow	57
Expense, labor, etc	21,091
Incidentals	2,575
Beets, cost of	71,055
Total cost of 1,640 tons of sugar	132,517
Received for it	162,454
Profit on 3,280,000 pounds	29,937

This was about 5 per cent on investment.

Sugar, average price, $5\frac{6}{10}$ cents. Paid for beets, average price, $5.

Consul J. S. Potter, writing on the subject of the cost of sugar in Germany, under date of 1880, says, it is about 4 cents per pound there. If allowance is made abroad for product from molasses, it is $3\frac{1}{4}$ cents. Consul Potter's result is reached by making the beets yield 11 pounds of raw sugar from 110 pounds of beets, or 1 pound of sugar from 10 pounds of beets, or 200 pounds raw sugar from a short (2,000 pounds) ton of beets. He makes the cost of sugar $43\frac{2}{10}$ cents per 11 pounds of sugar, or about 4 cents per pound.

Other considerations are, that factories in the United States stand idle from six to nine months in a year, the capital invested being, for that period, a dead loss, while abroad they run from nine months to the year around. It results that the large amount of short-term labor here required is not utilized beyond a month or two, which causes labor to fix its own price in the United States.

Both here and abroad it is known that a beet-sugar factory, wherever located, will not pay the first two or three years, and a sinking fund is accordingly provided. At Grand Island, in Nebraska, about $90,000 was sunk the first two years. At Alvarado, Cal., Mr. Hecht tells us (*see* Hearings before Ways and Means Committee, September 19, 1893, p. 529) that the factory made no money on a $188,000 investment the first year, nor on a $556,000 investment the second year, and only a reasonable dividend the third year.

If our beet-sugar manufacturers could market their "by-products" as they do abroad, the cost of sugar here would be materially decreased. For instance, the beet pulp abroad is purchased and fed to cattle, because it is very fattening; worth there $1.25 a ton, given away here when 25 cents can not be obtained for it. Our farmers have not yet come to realize its real worth on the farm. Then we have the potash salts and the lime cake, used abroad by farmers for fertilizing and liberally paid for, while in this country it is an item of expense, as it must be hauled away from the factory. All these things enter into the question of the cost here of beet sugar under present conditions.

In Grant on Beet-Root Sugar, p. 44, the author gives the cost of sugar in France at 4, $4\frac{1}{10}$, and $5\frac{2}{10}$ cents per pound, and his calculation is based on beets costing only $3.47, $3.87, and $3.80 per ton, and labor at only 66 to 70 cents a day.

PER CAPITA CONSUMPTION OF SUGAR IN DIFFERENT COUNTRIES.

The consumption of sugar per capita for the principal countries of the world during the year 1887 was, according to Government statistical reports, as follows:

	Pounds.		Pounds.
Finland	1·32	Belgium	15·71
Roumania	1·30	Sweden	17·40
Servia	4·40	German Empire	18·92
Spain	5·11	Switzerland	22·77
Italy	7·59	Holland	23·10
Russia	9·02	France	27·06
Portugal	9·55	Denmark	29·63
Norway	11·35	Argentine Republic	49·94
Austria and Hungary	12·10	Great Britain	70·40

With a population of 65,000,000, consuming 3,575,000,000 pounds of sugar, the per capita of the United States would be 55 pounds.

GRAND ISLAND FACTORY.

GRAND ISLAND, NEBR., *December 1, 1893.*

DEAR SIR: We take the liberty of addressing you, feeling an earnest desire to make you acquainted with facts of national interest to our people, and for the reason that we believe you will be interested to obtain the exact conditions and prospects of the beet-sugar industry, which we would like to have all our people understand at this time, when adverse tariff legislation is threatened to an industry of such vital importance to our country.

To that end, we send you a sample of the sugar we are turning out at the rate of 50,000 pounds every twenty-four hours, together with one or two pictures which show you the size and proportions of this industry.

The United States is paying out annually something like $125,000,000 to foreign countries for sugar, every dollar of which we can readily retain in this country by producing our own sugar, not to mention the fact that there is no reason for our not becoming large exporters of sugar in the future, just as now we are exporting other agricultural products.

To supply the home demand would require about 1,000 factories similar in size to this, which would mean the investment of something like $500,000,000. These thousand factories, with the tributary industries necessary for their operation, would directly and indirectly furnish sustenance to about 6,000,000 souls, and their operation would permeate every channel of trade. It would enable the poor man who could not rent or buy a large farm to support his family from the product of 10 acres of well-cultivated beets, and means the enhancement of the value of real estate, the dividing up of large tracts of land into small farms, a higher grade of farming, and one of the safest crops that can be produced, unattended by speculative influence.

We have this year received samples of beets from various parts of the country where we sent seed for experimental purposes. The results of these sowings indicate beyond doubt that the localities adapted for beet culture are practically unlimited. The necessary qualifications for a good beet country are: Abundant water, labor, transportation, and not too short a season, so that an expensive plant like this shall not lie idle too long.

The question now arises whether this industry is sufficiently important to foster, or shall it be crushed at a time when capital in abundance is ready to go into it if it is protected? The paltry amount necessary to be paid by the Government, for a few years only, in order to build up this industry, would not amount to as much as we are now annually sending to the farmers in foreign countries for our sugar, to say nothing of the fact that, were an European war to break out in the sugar-producing countries, the difference in the cost of sugar to our people in a few months would actually pay the bounty for many years to come.

We believe that the bounty law, as passed for a stated period, constitutes a specific agreement between the United States Government and the sugar producers, who have invested their money under the pledge of our Government, by the act of 1890, and even if it was found (should necessity require) that the Court of Claims did not substantiate this view of the case, there is certainly a moral contract which one legislature has handed down to another.

While we believe this industry in the United States will in the course of time be able to compete with that of any other country, it is at present unable to do so, and therefore requires protection in order to enable it to produce in the future not only the sugar we consume, but also to enable us to become large exporters.

Pardon the length of this letter, but I sincerely trust it may interest you sufficiently to ask your earnest consideration and support toward bringing about the desired results, which mean so much for our country and our wage-earners.

Very truly yours,

OXNARD BEET SUGAR CO.

Hon. W. A. PEFFER,
Washington, D. C.

WATSONVILLE SUGAR FACTORY.

WATSONVILLE, CAL., *July 28, 1893.*

SIR: In reply to your esteemed favor of 24th instant, we beg to submit the following information:

Our mill was built in 1888, with a capacity of 300 tons per day, and in 1892 was enlarged to a capacity of 600 tons per day. In the first season 14,845 tons of beets were used and 1,460 tons of sugar produced. These figures increased each year until the season of 1892, when they reached 54,415 tons of beets and 5,695¼ tons of sugar. The mill employs, when in operation, about 190 men, who receive an average daily compensation of $2.50, and indirectly causes the employment of hundreds more in the beet fields, woods (to cut fuel), lime-rock quarries, and on railroads. The farmers have on their part placed beet raising on a firm and profitable basis—the factory pays $5 per ton for beets, and this price is high enough to make beets the most profitable crop they can raise. The acreage in 1888 was 2,000 acres, with a yield of 7½ tons to the acre, and in 1892 4,157 acres, with an average yield of over 13 tons. At $5 per ton the average paid for the entire acreage was $65 per acre—an amount affording an ample margin of profit to the cultivator.

For the current season we have in beets 6,265 acres, of which 5,918 acres are voluntary contracts, i. e., contracts taken by independent farmers over whom the company have no influence and who raise beets for the profits to be derived from their culture. The 5,918 acres are being raised under 239 individual contracts and the remaining 347 acres by ourselves. In fact we have more acreage for beets offered to us than we can accept. We may mention as one of the direct effects of beet-sugar culture that it has doubled the price and rent of land in this valley inside of four years. It took four years to arrive at the point when we could obtain all the beets we needed and run the mill to its full capacity and for both farmers and mill owners to obtain remuneration for their work and capital. It is needless to add that these results have only been attained by slow degrees, by numerous experiments, and by many costly failures. It is equally needless to state that the industry could not exist without the bounty now paid by the Government or an equivalent duty.

We trust that the foregoing short sketch will answer your purpose, and regret exceedingly that circumstances prevented our being honored with your intended visit.

Respectfully,

WESTERN BEET SUGAR CO.

Hon. W. A. PEFFER,
Chairman Senate Subcommittee on
Agriculture and Forestry, Topeka, Kans.

ANAHEIM COOPERATIVE BEET SUGAR COMPANY.

SANTA ANA, CAL., *August 14, 1893.*

MY DEAR SENATOR: According to your request, I have prepared a statement of our sugar-beet industry, embracing its cooperative features, as we are trying to establish it here in Southern California. I have endeavored to make it plain, simple, and to present the exact facts. We trust that your broad comprehension of the wants of this new industry will enable you to secure such legislation in its behalf as will not wreck all our hopes for the future.

If the bounty can be retained it will have ten times the stimulating effect in promoting the establishment of beet-sugar factories that the tariff of the same amount would.

We trust you may succeed in obtaining such legislation as will meet the wants of the crying millions.

I am, with great respect,

H. A. PIERCE.

Hon. W. A. PEFFER,
U. S. Senate, Washington, D. C.

ANAHEIM, ORANGE COUNTY, CAL., *August 2, 1893.*

DEAR SIR: We herewith present you some facts pertaining to the sugar-beet industry, which is assuming considerable importance here in southern California

We need not call your attention to the long struggle; the costly experiments; the wreck of many fortunes during the last thirty years, in efforts to profitably establish the manufacture of sugar from sugar beets in the United States. These are a part of the history of our country. The generous aid given by Congress to the encouragement of this industry, after long years of experiments and the development of advanced scientific methods, have overcome in a great measure the difficulties heretofore encountered in the extraction and crystallization of the sugar contained in the sugar beet, and we may now look upon it as one of the great future industries of the United States.

The bounty of 2 cents per pound, granted by Congress by section 3 of the McKinley tariff law, has done much to stimulate this new and important industry. Before its passage we only had two small factories in our whole domain—one located at Alvarado and the other at Watsonville, both in California—and even now there are but six in the United States. Besides the two named, there is one at Norfolk, Nebr., one at Grand Island, Nebr., one at Lehi, Utah, and one at Chino, in this State.

The total production of beet sugar in the United States in 1891 was, 12,204,838 pounds and in 1892 it increased to 27,083,322 pounds. The principal gain was in California, which produced 8,175,438 pounds in 1891, and 21,801,322 pounds in 1892, and we think the production for 1893 of our State will reach fully 40,000,000 pounds. This is only the third year of the growth of this enterprise, and its progress has been most gratifying.

But there are features pertaining to this industry which peculiarly commend it to our American farmers. The most of the sugar manufactured from the beet in Germany—from whom we get our largest supply—is manufactured by factories owned and operated by the raisers of the beets—small farmers—on the cooperative plan, and it has been the means of bringing untold wealth and prosperity to the localities where it is most thoroughly established. This feature is already appealing strongly to our people. We have organized a company here on that basis, which comprises some 200 farmers and represents $500,000 of capital stock, divided into four thousand shares. Every share is represented by one acre of ground, which is deeded in trust to the company, and which must be cultivated in sugar beets for five years. Our farmers, like most of the farmers of America, have but little money; but the land so deeded by them to the cooperative company furnishes a security upon which to borrow the money to establish and successfully operate their factory. And here is seen the wisdom and beneficence of the present bounty of 2 cents per pound on domestic sugar. The farmer, having nothing but his land and his labor, finds it almost impossible to borrow from capitalists the large sums required to establish a successful sugar plant.

It has been demonstrated that a factory must have a capacity of at least 330 tons per day, to yield a profit on working, owing to the heavy expense—and such a plant, fully equipped, costs from $400,000 to $500,000. But we have found that by pledging and putting aside the Government bounty as a "sinking fund," with which to meet the interest on our bonds, we can borrow all the money necessary to build a hundred factories, and have every one of them owned and operated by the people, whose products they will convert into an article of commerce, the demand for which is world wide. We have been at work nearly two years in perfecting this cooperative organization and to secure the funds necessary to build its factory—$400,000—but already there is a widespread interest and demand for the extension of this work. We are making arrangements for the organization of four more cooperative companies in Orange and Los Angeles counties, which will include 1,000 farmers, and every dollar of this bounty will go to the producer and help establish an industry that will give employment, within the next fifteen years, to 5,000,000 of people, save hundreds of millions of money to our own countrymen, and render us independent of reliance upon foreign supply of sugar.

The possibilities of this industry are hardly dreamed of yet by our people. We have in Southern California alone, not less than 1,500,000 acres of land adapted to the growing of sugar beets, and probably 4,000,000 to 5,000,000 acres in the entire State which will yield an average of 10 tons of beets per acre. The experiments of our national Department of Agriculture have also demonstrated that there is a wide belt or zone extending from the Great Lakes to the Pacific, capable of producing this valuable root so as to yield a profitable return to the farmers, but probably nowhere on earth are all the conditions so favorable as on this coast for the production of sugar from the beet, except the one great question of labor. We can not compete with the cooly labor of the Sandwich Islands or the West Indies, nor with the pauper labor of Europe, where they can manufacture sugar for 3¼ cents per pound. The average price paid for laborers in the foreign beet fields is only $6 per month, while here the average price is $25 per month. In order for this industry to become firmly established, our farmers must have the protection either of a protective tariff of at least 2 cents per pound, or the bounty should be continued until 1905, when it expires by its own limitation. If this can be assured so that our farmers can be relieved of the fear of its removal and the loss of the homes they are willing to pledge to raise the necessary capital, there will be hundreds of cooperative beet-sugar factories established throughout the length and breadth of our land, and in ten years we will manufacture all the sugar required for home consumption.

There is another feature which should commend this industry especially to the favorable consideration of the Senators and Representatives from California. Our soil is prolific of nearly all the products of earth—but we have to seek a market for our fruits and vegetables from 2,000 to 3,000 miles away, and this places the producer completely at the mercy of the great transportation companies that span our continent, and the experience of the last ten years with them has been very disastrous to our confiding farmers, who have sought a market in Chicago, St. Louis, New York, and Boston. Let this beet-sugar industry be successfully established by the building of cooperative plants, and the great question of "transportation" is solved. It gives us a home market for our products and unites the manufacturer and producer. Every acre put into sugar beets takes an acre from competition with overburdened markets in the fruit, grain, and vegetable line, and enhances the value of those products to that extent. It will solve the great question of capital and labor as to this industry, for there will never be a strike nor lockout in a cooperative sugar factory. By fostering this industry and enabling it to become self-sustaining, we will relieve the overcrowded marts of labor—reduce the nu ber of the unimployed—make productive vast areas which now yield no remuneration—keep our gold at home—give impetus and encouragement to a thousand other industries now languishing—and make America what she ought to be—free, prosperous, independent, and self supporting.

A few millions of dollars given by the Government to the aid of this new and struggling industry, for the next ten years, will bring a return of many fold to the whole people. If the bounty is retained, sugar can remain on the free list and every poor man's sugar bowl in our nation can be full. If a tariff is placed on sugar, with an importation of over 3,000,000,000 pounds, it will cost our people not less than $60,000,000 annually and the working man will only be able to buy 10 pounds for a dollar, where he now gets from 15 to 20 pounds. This question reaches every home in America, no matter how rich or how poor. The bounty which will be paid to enable our farmers to establish this industry will not cost over 15 cents per capita, while the tariff will amount to $1 per capita per annum. These are the plain, simple facts.

We appeal to you in behalf of this new and important industry, in behalf of American farmers and American interests, to support and retain the bounty now granted to domestic sugar. With such an assurance of success to the farmers, the progress in this enterprise will be so great that a very few years will see the enterprise so firmly established in our country, so prosperous from the impetus given, that the Nation will be repaid a hundred fold for having been interested in its behalf.

Very truly yours,

Richard Gird,
H. A. Pierce,
E. J. French,
Frank J. Capitain,
Thos. J. Jones,
E. P. Fowler,
Directors of Anaheim Cooperative Beet Sugar Company.

Hon. W. A. Peffer, *U. S. Senate, Washington, D. C.*

ALAMEDA SUGAR FACTORY.

San Francisco, Cal., *August 19, 1893.*

Dear Sir: Through unavoidable interruption I have been delayed in giving you the data for which you asked until the present.

In looking into the details of the work of our factory I have found that we give employment directly to about 100 men for 100 days; that we have contracts with 200 farmers for the cultivation of 2,500 acres of beets, and that each acre requires the labor of one man 25 days to plow, cultivate, and harvest the crop. This would make 62,500 days' labor for our whole acreage. Add to this the factory labor and we have 72,500 days' labor given entirely to the crop and its working. Aside from this we use this year 4,000 tons coal, 2,000 tons limestone, 200 tons coke, 80,000 bags, 6,000 yards filter cloth, besides an infinite variety of smaller articles.

The production of the coal and other materials and the transportation thereof will add greatly to the days' labor provided by the factory. As the value of an article or commodity depends entirely on the amount of labor required to produce it, I am justified in taking the total amount of our expenditures, less that paid for beets and wages, and dividing it by the average cost of a day's labor, which I will assume to be $2. Last year the cost of all other items of expense besides beets and labor was $3 per ton of beets worked. This year we shall have over 20,000 tons, which would give $60,000 as the value of these expenses. Divide 60,000 by 2 and we have 30,000 as the number of days' labor required to produce the materials to finish the manufacture of sugar from beets. Adding this to the 72,500 already obtained, and we have 102,500 day's labor to plant 2,500 acres of land to beets and to put the finished product in the market. Our factory is a small one, only having a capacity of 200 tons of beets daily, but the disbursement of $200,000 yearly, the great bulk of which is distributed immediately around the factory, adds greatly to the prosperity and welfare of the agricultural community in which it is situated.

Five years ago the town where our factory is located was one of those dead and alive places, stagnating for lack of something to do. Nothing doing and no one moving. With the advent of the beet-sugar industry, or rather its successful development, the entire aspect of the place has changed, and I am credibly informed that more money has been distributed there in the past four years than during the previous thirty, and I believe it.

That the cultivation of beets is remunerative to the farmer in this locality is amply demonstrated yearly by the recurrence of contracts by the same parties, for unless they profited by the industry they would be loath to go on year by year at a loss.

If all the sugar consumed by the people of the United States could be produced at home (and it can be) it is easy to see to what extent labor in its most diversified forms could be employed and to what extent.

The annual consumption of sugar in the United States is about 2,000,000 tons, of which about one-eighth is produced at home.

Of this one-eighth all except 20,000 tons is produced from cane grown in the Gulf States. Leaving the question of the possible extension of the sugar-cane industry to other hands, let us see what would result from the development of the beet-sugar industry. A 500-ton factory is not excessively large and may be taken as the basis for calculation. The manufacturing period is generally 100 days, and a factory as above would consume 50,000 tons during the season.

A ton of good beets should produce 200 pounds or 10 per cent of its weight of white sugar; consequently to produce 2,000,000 tons of sugar we should be obliged to grow 20,000,000 tons of beets. Four hundred factories each of 500 tons daily capacity would be needed to handle this immense crop. Each factory would require for its operation 240 men for 100 days. Four hundred factories would need 69,000 men for 100 days, or 9,600,000 men for one day. To cultivate 20,000,000 tons of beets with a yield of 10 tons per acre (Germany produces nearly 13 tons) would necessitate the employment of 2,000,000 acres of land. From our experience in America it has been found that each acre requires one man's labor for twenty-five days from plowing to harvest time, and the 2,000,000 acres would furnish 50,000,000 days' labor. (In France, the factories alone, in 1890–'91 furnished 5,500,000 days' labor. See French table appended.) Each factory would consume fuel (coal) to the extent of at least 10 per cent of the weight of the beets worked, making a total consumption for 400 factories of 2,000,000 tons of coal. The amount of limestone needed would be 6 per cent of the weight of the beets or a total of 1,200,000 tons, and as this limestone must be burned to produce lime it would require for this purpose 1¼ per cent of the weight of the beets in the shape of coke, amounting to 250,000 tons. The packages to contain the finished product amount to no small item. Custom has established the use of a double bag (one of cotton and one of jute) holding 100 pounds of sugar as the standard package, and to pack the 2,000,000 tons 80,000,000 bags must be furnished annually.

The matter of freight and transportation in and out is no mean item in this bill of particulars, as there would be of—

	Tons.
Beets (in)	20,000,000
Sugar (out)	2,000,000
Coal (in)	2,000,000
Limestone (in)	1,200,000
Coke (in)	250,000
Bags (in and out)	27,000
Molasses (3 per cent of the beet weight) (out)	600,000
Or a total of	26,077,000

It is possible to extend the details much farther, but with a reference only to the pulp, a waste product of the factory, attention will be called to other items. The pulp amounts to 38 per cent of the beet weight and is of great value as a fodder for cattle. There would be 7,000,000 tons, enough to feed 1,400,000 head of beef cattle 100 days, the usual time required to fatten them. There yet remain other supplies to be furnished in the way of agricultural implements, seeds, castings, forgings, lumber, oil, electric lamps, filter blankets, etc., enough to establish industries themselves. The stimulus given by the sugar industry would extend to every art, trade, and profession.

Assuming that 20,000,000 tons of beets at 10 per cent yield of sugar would supply our present needs, and that they could be produced and worked at a total cost of $7 per ton (it costs $9 now), with labor worth $1.50 per day, it follows that this industry could furnish 93,333,000 days' labor, including the 9,600,000 days above mentioned.

The annual disbursement of money for each factory would be $350,000, a golden douceur to the community where situated.

The ramifications to which these golden streams would extend would be innumerable, and every occupation would in greater or lesser degree be a gainer by having the United States produce its own sugar.

Annually upwards of $140,000,000 is sent out of the country, and for it we have the sugar; but the sugar is consumed or disappears and the tax for its cost is annually taken from American channels of trade and presented to foreign nations.

Could the sugar be produced at home, all this vast sum now sent away would remain here in circulation, adding greatly to our wealth. The consumption, instead of being lessened or remaining stationary, would with the increase of population also increase, so that in ten years the annual needs of this country would be close upon 3,000,000 tons.

The production at home, and the maintenance in this country of the circulation of $140,000,000 annually, would be of infinite value to all interests of labor and capital.

The beet-sugar industry furnishes from 53 to 54 per cent of the total sugar of the world, and is at our service, for the results of the past five years have shown that it can profitably exist over a great area of our country. Beginning experimentally in the early part of this century, it was not until 1888, when under the stimulus of ample capital and with intelligent methods under the management of technical men, that the production of beet sugar became a financial success; and every factory erected since that time has also proved successful.

In the early stages, previous to 1888, great difficulty was experienced, and it was thought that the trouble lay entirely with the manipulation of the factories. No strictly technical men were in charge of the early factories; that is, no sugar technologists, men who knew every practical and theoretical detail of sugar manufacture. Under the new era it was soon found that the supply of beets was inadequate; that the agricultural development must precede the establishment of the factory; that the farmer must be shown how to grow beets at a profit. Having reached this conclusion, they set out to produce beets in sufficient quantity and of good quality, the two absolutely necessary conditions for the successful operation of the factories; but, at the same time, they looked to it that the farmer should be a gainer. To insure both quantity and quality the factories imported the best varieties of seed from Europe, and they brought over expert agriculturists to teach the farmer how to plant the seed and cultivate the crop, so that the land should give the greatest yield both in roots and sugar, well understanding that tonnage and quality must go together for mutual advantage.

The factories imported European agricultural implements and devised new ones. They stimulated agricultural implement makers and others to invent seed drills, cultivators, and harvesters suited for American use.

The farmer received his seed at cost for first planting, and, if for any reason the seed failed to sprout, gave him more without charge. More than all this, if his crop was insufficient to pay his indebtedness to them, they forgave the debts. In every way they aided and stimulated the beet-grower until he made a success of the agricultural part.

The manufacture of good sugar from good beets is easy, and to get large quantities of good beets they worked with tireless energy.

Still we are far from reaching the summit of European success, for we are as yet infants, and the extent to which the industry has developed does not make a common thing to hear of a "beet farmer," but the leaven is working and under fostering legislation ten years will not pass before we shall see a million acres of growing sugar beets.

The advantage of sugar-beet culture to the United States would be twofold, in that it would withdraw from cereal culture the greater part of 2,000,000 acres of land, and to that extent relieve the depression which now exists in our farming industry.

With the protection afforded by the present bounty, or its equivalent, beet-sugar factories can operate; without it they can not. A duty of less than 2 cents a pound is not equivalent to the present bounty, for it would leave the domestic sugar producer a much less margin than at present and the profit to-day is less than three-fifths of the bounty.

Again, the production of domestic white sugar is opposed to the interests of the great sugar refiners, who themselves desire to do all the refining, and if the domestic sugar producer is left to the protection of a duty only it is in the power of the refiners to so control prices that the beet-sugar factory must either produce raw sugar or make white sugar at a loss. The sugar refiners of this country are the sole purchasers of one-third the entire world's sugar and have it in their power to raise or depress the price of the raw article, and as raw-sugar producers the beet-sugar factories would be forced to obey their mandates.

Under the previous law and stimulated by the possibility of gain under a tariff of 2 cents per pound on imported sugar, our capitalists undertook the task of developing the best sugar industry, investing millions of dollars and years of time to make it what it is. Congressional legislation reduced the tariff, consoling the domestic sugar producer by the promise of a bounty for fifteen years. In other words, it was desired to give two bounties, one to the people at large, so that they might have cheap sugar, and one to the producer, that he might not suffer loss.

The first was an indirect bounty of $55,000,000 annually, while the other was a direct one of $10,000,000. With increase of consumption each would increase.

It was a synallagmatic contract between the people of the United States and the American producers, and, by fixing a consideration to be paid and a limit of time for it to exist, the parties to the contract were in honor bound to live up to its conditions as much as individuals would be who signed a similar contract.

More than that, the contract has been entered into and for more than two years lived up to in good faith. The people have received their share in the way of cheaper sugar, while the producer had his in coin.

In good faith the producers have followed the terms of the contract, having increased the number of factories from three to six and the output from 12,000,000 pounds in 1890 to 27,000,000 in 1892, while the estimate for 1893 is nearly 60,000,000 pounds. The other party to the contract has paid the bounty promptly, thereby acknowledging the validity of the agreement, which it would be a breach of faith for the Government now to abrogate.

The people have been the greater gainers by the bargain and the producers have been content; but the continued agitation of the question deters capital from further investment, and the whole sugar industry languishes.

It would seem that the possibilities of beet-sugar manufacture for the relief of the agricultural depression and for the retention of an enormous capital within the United States,are so great that the continuance of the contract for the full period would be but a small price to pay for the establishment of an industry which would make us independent of foreign nations in that particular.

Germany produced but 205,000 tons in 1872, but under the fostering care of its Government it has increased its yield to 1,258,000 tons in 1892.

There the waste products of manufacture go far towards liquidating the cost of manufacture, while here we have yet to convince farmers of the value of pulp and lime scums. Cheap fuel and labor allow the Europeans to utilize the molasses, while here, except for a small proportion used for vinegar, the greater part is run to waste.

These difficulties are only temporary, disappearing as the value of the by-products is discovered.

Our advantages for manufacture are that we can produce a beet superior in sugar, that we have better implements, and that our soil is practically virgin, deep and of good texture, existing in vast area. Farmers and farm laborers do more work for better pay than in Europe; and the same applies to the laborer in the factory.

We have the skill, inventive genius, and energy to carry out our ideas; but, above all, we have the daring to spend one dollar to save two.

Whether it shall be for this Congress or another to legislate favorably remains to be seen, but sooner or later our sugar production will be known as a great American industry, leading that of the rest of the world.

We have the territory, the capital, and the skill but we need protection.

Inclosed are copies of the last German and French statistics.

Yours, truly,

E. C. BURR,
Manager Alameda Sugar Company.

Hon. W. A. PEFFER,
Washington, D C.

CHINO SUGAR FACTORY.

CHINO, SAN BERNARDINO COUNTY, CAL.,
August 5, 1893.

DEAR SENATOR: Inclosed you will find a paper on the beet-sugar industry that I promised you. I was unable to send it sooner for the want of time in which to prepare the matter properly, and I apprehend that it is still imperfect, as the starting of the sugar campaign always gives me a great deal of close work and application. We are delivering to the factory at the rate of over 400 tons of beets per day, and expect soon to work up 600 tons. The factory is turning out sugar very fast, and if you were here to see the satisfaction that the industry is giving this community and the relief from the low prices and overproduction of other products, it would be a lesson that I believe you could use very effectively for the cause you have at heart. I would like to write you from time to time giving you an idea of what we are doing.

Yours, very truly,

RICHARD GIRD.

Senator W. A. PEFFER,
Senate Chamber, Washington, D. C.

Twelve years ago, when I purchased the Chino ranch, consisting at that time of 36,000 acres, it, and the country around, was nothing better than a sheep pasture in the shape of an open common over which great herds of sheep wandered under care of shepherds (mostly Basque Frenchmen) to whom the owners had rented the range in large subdivisions represented by natural boundaries. The Frenchmen desiring to make the most of their rental, had stocked the land to its utmost capacity, as a consequence of which the natural grasses had been mostly stamped or eaten out, the owners being compelled each year to take a lower and lower rental as the lands became of less and less value as a pasture; so that at the time of my purchase the land had reached so low a limit as to no longer pay taxes and interest on the money invested. I was, therefore, enabled to purchase the ranch at much less than what I conceived (looking to future possibilities) the land was worth.

I make mention of the above condition of the land to illustrate as a parallel to lands of which there is a vast extent in the United States, worn out and rendered comparatively unproductive, and to the owners of which, and to the country at large, the problem is how to increase production and income.

The lesson sought to be conveyed by the above is that we, as a nation, should encourage the production of those products that are now purchased from abroad; for the double effect of diversifying our agricultural industries, making every other kind of crop more valuable, and also to save our money at home among our own people, the necessity of which is so apparent at the present time.

The problem before me then was, how shall I resuscitate these lands and develop some branch of agricultural industry that would yield a good margin of profit and at the same time increase the productiveness and value of the soil. It was but too patent on every hand that all kinds of grain-farming were resulting in impoverishing the soils without yielding a profit to the farmer and, although working on cheap lands, the exhaustion of which did not at the time amount to a serious financial loss, still the prospective community loss was too great to admit of a prudent man looking to the future and having the good of the community at heart, to undertake the cultivation of grain on so extensive a scale as would have been necessary on so large a tract of land.

The agricultural problem was precisely the same to me then as it is now to the State of California and the United States, and the remedy, as hereinafter described, was precisely the same as ought to be taken up by the governments of states and nations, and by proper legislation carried to a legitimate conclusion. The main underlying source of a nation's prosperity must rest upon her agriculture, and its greatest range of valuable availability can only be secured by scientific experiment.

The Government of the United States, owing to her vast expanse of rich virgin soils and the ease with which the wants of her people have been supplied therefrom, has not had, up to this time, the necessity forced upon it to systematically and scientifically assist, as well as protect, where it seems needful, this, the greatest of her industries; considering always that it is the duty of the Government to instruct, guide, support, and protect her people in all their efforts to better their condition—let it be considered paternal or otherwise.

I have thus prefaced the lesson I shall illustrate below, in order that the full purport of it may be understood by the reader.

My first improvement upon coming into the possession of the 36,000 acres of land was to fence it on the outside boundary, to move off the sheep as soon as the rentals expired, and then to place on the reviving pastures a limited number of cattle and horses, establish a dairy, and prudently follow the general plans of a large stock ranch. It soon became evident, however, that, situated in a progressive community and competing with the free ranges of the Territories, while I might improve the land I could not make it profitable. I studied the question long and earnestly; all the common crops of the country were overdone, profitless, and exhaustive; fruit of any kind only seemed adapted to small holdings, and had become such a relief to the public from the raising of grain that it, too, was likely to be overdone. After much study and examination of the subject I concluded to try the sugar beet as seeming to present the best future of any agricultural product, owing to the vast and constantly increasing importance of sugar in the economy of modern life, and the protection and assistance Government seemed inclined to give it as an essential necessity, particularly in its infancy; and I am bound to say, that had it not been for this promise of assistance and protection there would not now be a beet-sugar factory in the United States.

To intelligently enter into the cultivation of the sugar beet, I found, upon inquiry, that there was much to learn and, accordingly, about the fall of 1888, I commenced a series of experiments lasting three years, which I had carefully recorded, and which, together with a thorough study of the subject from all known sources available to me at that time, enabled me to successfully demonstrate the great adaptability of southern California for the cultivation of the sugar beet. I divided the area of land on which I was about to experiment (about 20,000 acres) into sections, according to its quality and conditions, and I found, perhaps, as many conditions and kinds of soil as will be found in most States—from the coarse detritus, or drifted débris of the granite slope of the Sierra Madre, at the southern base of which these lands are situated, following down the slope to the center of the great Chino Valley, where we find gray and red sediment, to, further on, a black sandy loam (the ideal beet land), till we arrive at the bottom of the valley, where we find a rich vegetable mold, having a base of clayey calcareous marl, the deposit of either a salt-water estuary or a fresh-water lagoon.

I then, in the early spring, started experimental patches or plantings in different parts of different kinds of soil, planting a new patch every two weeks, and making them of a uniform size of 1 rod square, continuing the planting from February till June, or as long as there was any possible expectation of getting practical or valuable results.

These experimental plantings were cultivated as near as possible to correspond with the actual field culture, and their growth and the characteristics of the different varieties in different soils were carefully noted. I had received from Mr. Henry T. Oxnard, who was at the time studying up the beet-sugar question in Europe, samples of the most approved German and French varieties of seed; he also procured seed from other sources, notably from the Government (all of which latter proved valueless). As the beets neared maturity (having mastered the analysis of the sugar beet as an absolutely necessary help to success) I sampled and tested the different varieties all through the summer and fall, into the winter, keeping careful record of the same. My sampling and analyzing were conducted as follows: Each Saturday the samples were taken from the experimental patches as they matured, and, after maturity, to test their tendency to reversion and the length of time at which they remain at their highest condition of sugar and purity, which is very important in a climate like California, where siloing is objectionable and it is desirable to work the beets direct from the ground.

On Sunday (being very busy on multitudinous other duties during the week) analyses of the beets were made and a record carefully kept, which record, together with the meteorological conditions of the climate, such as rainfall, temperature, etc., made up the history of the three years' experiments. When, therefore, the time arrived to convince investors of the certainty of the perfection of the crop under existing circumstances, the data I had accumulated was entirely sufficient to prove the success of the experiments to the most skeptical. The following, out of such a definite plan as this, is what should be undertaken by the Government in different localities through all the temperate zone of the United States where sugar beets will be expected to flourish. And here let me say, that it is my experience that the sugar beet is a particularly hardy plant, adjusting itself without difficulty to conditions of soil and climate, with extreme tenacity of life, and succeeding where many other agricultural products would, under the same conditions, be a total failure. It is also a plant the cultivation of which under the scientific methods necessary to its success increases the productiveness of the ground for other crops, and makes such a division and increase of labor to a given area as to help solve the question of profitable employment and of the instillment of those habits of industry into the rising generation which at present seems such a difficult problem in our industrial labor system.

Upon the showing made by the experiments above narrated I was enabled to secure from Messrs. Oxnard the necessary capital and experience to erect a factory in the midst of my intended beet fields, and which now, in the commencement of the third campaign, can not be pronounced anything but an unqualified success, as the following statistics (1892) will show: Nearly 28,000 tons of beets were delivered at the Chino Valley Beet-Sugar Factory, which were converted into nearly 8,000,000 pounds of sugar; the average tonnage per acre was 15, and the average sugar per centage was 15.

The Chino Valley Beet-Sugar Company, upon the successful showing of 1892 and the improved prospects for 1893, increased the capacity of their factory from 330 to 600 tons of beets per day, the amount which is expected to be worked this year, and which may be considered as ample proof of the success of the enterprise. This season myself and 160 farmers have 4,000 acres cultivated to sugar beets, from which we estimate that 50,000 tons or more will be delivered at the factory to be made into about 14,000,000 pounds of sugar. This means a distribution during the coming autumn of some $300,000 to $400,000 in and around Chino, which would have otherwise gone out of the country to buy foreign sugar.

To show the statistical results of the individual farmers, and as a matter of reference, I append the following data sent into my office by some of the farmers during the season 1892, showing the results of the second year's cultivation of the sugar beet on the Chino ranch:

E. Robertson, 10 acres:

222½ tons sold, at $4.05		$901.12
Plowing and harrowing	$20.00	
Seed, 14 pounds per acre	15.00	
Thinning	44.00	
Hoeing	18.00	
Cultivating	6.00	
Topping	78.00	
Hauling	106.20	
Total		287.20
Net profit		613.92

Net profit per acre, $61.30.

A. F. Keyes, 4¾ acres:

117¼ tons of beets		$458.91
Plowing and planting	$14.25	
Seed	5.95	
Thinning	21.37	
Cultivating	4.75	
Harvesting	146.00	
Total		192.32
Net profit		261.59

Net profit per acre, $55.07.

Gustafson Bros., 10 acres:

230 tons of beets at $4.03 per ton		910.78
Plowing, planting, and cultivating	33.22	
Seed	12.00	
Thinning	57.15	
Weeding	20.00	
Topping	75.15	
Plowing out and hauling	125.50	
Total		323.42
Net profit		587.36

Net profit per acre, $58.75.

The foregoing are fair average results of last season's crop. As the methods of growing beets, selection of seed, soil, etc., are better understood, and labor-saving machinery is introduced, the expense account will be much reduced and the profit of the crop much enhanced. For instance, the cost of harvesting will be reduced one-half with the use of improved harvesting machinery. The factories have also offered the farmers higher rates for their beets this coming season for beets over 12 per cent sugar to induce a more thorough and scientific cultivation. A beet-sugar plantation, such as the Chino, is also of great benefit to the prospective fruit-grower, as a fruit orchard can be brought into bearing from the profits of the beets grown between the rows, and the testimony is that the trees grow exceedingly strong from the high cultivation given the beets. Beet-growing is essentially a domestic industry, as the work of an entire family can be utilized in the fields. Beets afford a cash return within five months from planting.

In 1892 the total value of the crop of sugar beets raised on the Chino ranch was $120,000; this season it will no doubt reach $250,000. The average price paid by the factory in 1892 was $4.25 per ton; the average production per acre was 15 tons; the average cost of production was $25 per acre; so that the net profit per acre for 1892 was $38.75. This year the average price paid by the factory will be about $5 per ton, so that the net profit per acre will be nearly $50. Average sugar percentage for 1892 was 15 per cent.

Upon this tract of 20,000 acres, which a little more than three years ago was an open cattle range, are located 160 intelligent and industrious farmers with their families; 372 of their children attend the common schools that have been established here; three churches have been built and a community organized and started out under such favorable auspices of such profitable, industrial, agricultural employment as to have an assured future.

The most difficult and complicated question involved in the agricultural betterment of the people of the United States is that of regulating the supply and demand of its products; and this can only be done by introducing new and improved economical products that will diversify and take the place of our present overdone agricultural productions, such as corn, wheat, fruit, etc., and there is no question why the immense sums sent abroad for the purchase of sugar from foreign countries can not only be saved to the American people through the culture of the sugar beet, but that a great industry can be established, affording profitable employment to labor as well as income from the land, which can not be equaled by any other product whatever; and if encouraged by governmental assistance, there is no reason why in twenty years the United States should not be exporting sugar to other and less favored countries.

In addition to the economical value of the sugar, I should not fail to mention the value of the waste pulp from the factory for the purpose of feeding and fattening beef cattle and the resultant fertilizers for enriching the soil. The feed thus obtained per acre, I think, would be equal to that of most products raised especially for that purpose.

It would take too much space in this short article to give the results of experiments thus far made; let it suffice to say that the feeding of the waste pulp has proved a success in this country, as it has heretofore in Europe.

Another, and in its effect a very far reaching benefit is the bringing of the producer and manufacturer together, making the labor interchangeable from farm to factory, giving more continous employment to greater numbers at higher wages and, of necessity, of a more intelligent kind; also acting as a counter influence to prevent the crowding of population in large cities; a much to be deplored tendency of modern life; also saving the cost of transportation of crude products, a matter of great economy to the producer.

The same principle of action determined to be expedient to found a successful sugar plantation on the Chino ranch, as above recited, is precisely the same as should be adopted by our Government, as what has been found practical for an individual will also be found practical for a community or a nation.

WORK OF THE CHINO FACTORY, 1893.

The following is taken from the Chino Valley Champion of November 3, 1893, giving a report of the factory work for the year 1893:

IT IS FINISHED.—THE SUGAR CAMPAIGN OF 1893 SUCCESSFULLY CLOSED.

The last of the sugar-beet crop of 1893 has disappeared. Up to the closing time last night loads of beets came in steadily, and it was dark when the last load was weighed into the factory. The crop was harvested, and harvested so completely and satisfactorily that a contented sigh of relief was noticed along the line as the last loads were dumped and the wagons weighed out for the last time this season. We believe we are safe in saying that so successful a close was even beyond the expectations of the most sanguine. Practically, every acre of beets was harvested and worked up. A few small patches of overgrown beets were purposely kept for stock feed, but not a single farmer has failed to get his beets in the factory. In fact, for the past week the harvest has been almost entirely on Mr. Gird's beets, he having given the other farmers the preference before the season was so far advanced that bad weather might be expected.

The total harvest of beets from the Chino fields was 44,008 tons and 980 pounds, gross. From Anaheim and vicinity 7,302 tons and 251 pounds were received, so there were actually weighed into the factory 51,310 tons and 1,131 pounds of beets.

For the farmers this has been a remarkably successful season. The percentages of sugar have not averaged as high as in previous years, but the tonnage has been large and the yield of sugar per acre, which is the true criterion, has been good. The individual farmers are almost universally well pleased with their returns. Of this we will speak more particularly later.

The sugar reduction will not be completed until this evening, but the total output for the season, as estimated by Mr. Hamilton, will be about 15,100,000 pounds, or 7,550 tons. This would make 755 standard carloads, which, standing in line, would make a train about five miles long. Since the beginning of the campaign a train load of sugar has left Chino every morning regularly, going to fill the demand for sweets on the Pacific coast.

What a wonderful transformation! Three years ago Chino had a population of less than a hundred. It was a mere hamlet with a few struggling farmers about it. To-day, among the industrial enterprises of California, none have greater prominence, more interested watchers, than that at Chino. And it is safe to say that no community in the State is more prosperous to-day than is this, under the influence of the beet-sugar industry. The Government policy of encouraging the sugar industry by the bounty system has made this a happy and prosperous community. And, moreover, our prosperity has not detracted from that of another community or individual in the land. On the contrary, thousands of citizens outside of Chino profit by it and bless it.

REPORTS FROM BEET FARMERS IN CHINO VALLEY.

The following reports from beet farmers are taken from the Chino Valley Champion of November 17, 1893:

Geo. C. Moore rented 36 acres, which he planted to beets. He did the team work and a large part of the labor upon the crop himself, hiring no more than he could avoid. He is an energetic, painstaking, and careful man, and his care has been well rewarded. In making a statement of his expenses on the crop, he included all his own labor and that of his teams. His actual expenses in money were therefore much less than the figures given. His account on the 36 acres stands:

749 tons at $4.25		$3,183.25
Plowing	$72.00	
Preparing ground	27.00	
Seed	64.80	
Planting	12.60	
Thinning	108.00	
Cultivating	25.20	
Hoeing	70.00	
Pulling and topping	374.50	
Hauling	299.60	
Factory expenses	52.45	
	731.65	
Rent, 25 per cent	1,106.30	
Total expenses	1,901.95	
Net profit	1,281.30	
		3,183 25
Net profit per acre after paying rent		35.59
Net profit on land		57.42

To Mr. Moore's net profit of $1,281.30 on his venture should be added regular wages for his own summer's work, say $400. This shows him nearly $1,700 ahead on his summer's work, with no more capital than team and implements invested.

E. M. Day, living a mile and a half west of town, reports that he planted 25¾ acres to beets, from which he harvested 409 tons, for which he received $1,400. On his home place he had 5¾ acres, the beets from which brought him $525, or $91.30 per acre. On another 10 acres he harvested 204 tons, which brought him $4.50 per ton. This makes the returns for the 10 acres $918, or $91.80 per acre. The $1,400 he received for his entire crop is all clear gain, except $40 which he paid out for wages and $75 for seed and use of cultivator. Himself and two boys, one 11 and the other 15 years of age, did enough work on their own crop and in exchange with their neighbors to clear all expenses on their own crop, except the $115 noted. In other words, Mr. Day's summer's work on his beet crop has brought him just $1,285 in clear cash. Besides this he has taken care of, cut, and harvested 10 acres of alfalfa of his own, raised 14 acres of barley, and did $50 worth of work cutting alfalfa and barley for other people.

Gustafson Bros. came to Chino three years ago without any capital whatever and commenced beet farming on their own account, doing their work thoroughly. The result was that they have been successful in every crop they have planted.

They bought 20 acres of choice land west of town for $175 per acre, and on this they made the last payment this summer. They have a clear deed for their 20 acres to-day, and they have paid for it from *beets raised on the land*. They came to Chino, as Mr. Gustafson said, "without a dollar," and they now own a piece of land that is not excelled in California.

They have kept a careful itemized account of their expenses on the 20 acres of beets this year, including their own work, which they counted at $1.50 per day, and which amounted to $275. That much should be added to their net profit, as it is their personal earnings from labor on their crop. They harvested from the 20 acres 436 tons, for which they received $4.50 per ton. The figures, then, are:

Gross returns, 436 tons		$1,962.00
Plowing 20 acres	$40.00	
Harrowing twice	12.00	
Seed	30.00	
Seeding	8.00	
Thinning	80.00	
Cultivating twice	12.00	
Weeding	20.00	
Topping	108.00	
Plowing out beets	40.00	
Hauling to factory	174.40	
Tare and factory expenses	60.20	
Total expenses	584.60	
Net profit	1,377.40	
		1,962.00

Net profit per acre, $68.87.

J. S. Crane reports yields as follows: On lot No. 7, 10 acres, 170 tons; lot 8, 10 acres, 92 tons; lot 4, 9 acres, 168 tons; another 16-acre piece, 247 tons. This gives him 677 tons from 45 acres, or over 15 tons per acre on an average. The average analyses of his beets were 13 per cent, and on this basis his crop returns are about $2,640. Mr. Crane was at very little expense for labor, as himself and two boys did not only a large part of their own work, but considerable for their neighbors. He is well pleased with his crop.

Charles Fox raised 10 acres of beets, which were handled by Mr. Crane. From this lot there were harvested 143 tons of 16 per cent beets, which amounted, at $5.10 per ton, to $729.30, or $72.93 per acre.

C. M. Craw harvested and delivered from one 6-acre field 93½ tons of 14-per-cent beets. This gives him 15½ tons per acre at $4.30 per ton, or $66.65 per acre. From another 8-acre field he harvested 86 tons of 15-per-cent beets.

E. R. Robertson harvested from 30 acres of his own land west of town 508 tons of beets. These averaged him $4.50 per ton, or $2,286 for the field—$76.20 per acre. Nine acres of the crop were very light, and brought the average of the whole down considerably. On 2¾ acres, he harvested 74 tons, or nearly 27 tons per acre. Mr. Robertson says he will plant his land to L R seed next year, and from these 30 acres he counts on getting 800 tons.

Peter Varner harvested, from 18 acres, 360 tons of beets, or 20 tons per acre. For these he realized $3.90 per ton, or $1,404 for his crop—$78 per acre. Less than three years ago Mr. Varner came to Chino with no capital whatever but his energy, his perseverance and his pluck. He has recently purchased $3,000 worth of land for a home, and he is paying for it with money realized from beet-farming. He says he is satisfied that there is no line of farming in California in which he can do as well as growing sugar beets.

N. S. Rice planted 16 acres, from which he harvested 201 tons net, or about 12½ tons per acre. At $5.06 per ton, these brought him $816.52, or $51.04 per acre gross. The money he actually paid out in raising and harvesting the crop was as follows:

Seed	$57
Thinning	54
Plowing and planting	30
Topping	101
Total	242

All the rest of the work was done by himself, and no account was kept of it. This leaves his net profits on the 16 acres, $574.52.

W. C. Rightmier harvested from 27 acres 400 tons and 700 pounds, or an average of 15 tons per acre. They analyzed between 13 and 14 per cent sugar, making an average price of, say $4.10 per ton. This would give Mr. Rightmier in the neighborhood of $61.50 per acre from this field. Another field of 8 acres gave better returns. The 8 acres yielded 172 tons of beets averaging 14½ per cent sugar. This makes him 21½ tons per acre at $4.50 per ton, or a return of $96.75 an acre for the field.

A. L. Cavanaugh has harvested 10 acres, from which he got 22 tons per acre, or 220 tons of 16-per-cent beets. Sixteen-per-cent beets bring $5.10 per ton, so Mr. Cavanaugh gets $1,122, or $112.20 per acre from that 10-acre field.

W. A. Lyell harvested 14 acres of beets south and west of his house. These 14 acres yielded 230 tons, or 16½ tons per acre, of 14-per-cent beets. This gives Mr. Lyell $987, or $70.95 per acre. In one corner of this field is a sand streak which reduces the average yield very materially. On 3⅝ acres of it there were harvested 90 tons, or 24½ tons per acre.

M. D. Herring harvested 20 acres of dry-land beets which yielded an average of something over 13 tons per acre of 14-per-cent beets.

Cyrus Platner harvested a crop from between the trees of his walnut grove. The acreage actually in beets was 6⅞. From this he got 132 tons of 16-per-cent beets. This makes about $97 per acre.

HISTORY OF BEET SUGAR ABROAD.

Prior to 1747, Marggraff, a celebrated Prussian chemist, discovered that beets contained saccharine from which sugar crystals would form under proper treatment. He cut some beets into thin slices, dried and pulverized them, and to 8 ounces of the beet powder he added twice that amount of spirits and exposed the mixture to a gentle heat in a sand bath. When the same had reached the boiling point he filtered it into a flask and corking it up left it. In a few weeks he discovered sugar crystals which contained all the properties of cane sugar. He also treated carrots, pumpkins, etc., in like manner, but the beet appeared to attract his attention. In 1747 he addressed the Academy of Science at Berlin a memoir on the subject, and as a result two beet sugar factories were erected near Paris in 1800, which, however, never attracted anything but ridicule. It was left to Marggraff's pupil, Achard, to invent the method of making sugar from the beet on a large scale. In 1799 Achard wrote an article to a French periodical which created a sensation, eliciting, however, both admiration and ridicule. In consequence of the capture by the English of nearly all the French (cane sugar) colonies, sugar had risen to a high price in France, and it finally led the French Institute to examine Achard's theory by a commission, which reported that the cost of producing beet sugar would be over 16 cents per pound.

Notwithstanding the high price of sugar, fears of a peace with England deterred capital from investing, so that until Napoleon gave life to the industry only the two factories mentioned were established, one at St. Ouen and the other at Chelles. Both these efforts failed from lack of experience in management and the poor quality of the beet, the percentage of saccharine obtained being only 1, 2, 2½ to 4½ while Achaed prior to this time had obtained a 6-per-cent saccharine result. With the downfall of these two factories hope of final success in France fled, to be resuscitated, however, by the promulgation of the Berlin and Milan decrees by Napoleon. Those decrees barred out foreign cane sugar and promised the field to domestic farmers of beet sugar. Chemists again took up the subject with renewed zeal, directing their attention, however, more particularly to obtaining sugar from the grape, but it was soon discovered that the grape contained only 67 per cent of the amount of saccharine possessed by the beet. This being brought to the attention of Napoleon in 1812, he issued a decree designating five private factories as special schools for teaching beet-sugar production and detailing thereto 100 students. He also directed the erection of four imperial factories and $200,000 was set apart to encourage production, and liberal bounties, donations or gratuities were offered in favor of those who had pursued the subject of investigating sugar production, and a special bounty of $20,000 was offered for a 10-per-cent saccharine result from the beet. These things laid the foundation for the covert system of bounties in Europe. Additional factories were erected and indigenous sugar was exempt from tax.

Napoleon was caricatured and ridiculed in the midst of his efforts to render France independent of the world for sugar, but to no avail. He continued to foster and encourage this agricultural child of the Empire by appropriations, and, in connection with other industries, he fostered them to the extent of $200,000,000, although he was maintaining large armies in Spain and in Portugal, and a formidable navy. The most persistent efforts were made in every direction abroad to break the confidence of the people of France in Napoleon's efforts, but to no avail; in fact, he made answer to his critics that the Berlin and Milan decrees were the fundamental laws of his Empire; that commercial relations with England must cease. Foreign sugar, by the blockade, was at this time worth from $1.20 to $1.40 per pound. The result was that as early as 1815 there had been erected in France in thirteen years one hundred and three beet-sugar factories that produced 6,630,000 pounds of beet sugar, costing 15 cents a pound. This amount was about one-half of the then requirements of the Empire.

In the meantime, and while Napoleon was thus giving his attention to war and to the rendering of France independent of the world for sugar and various other things, great progress was being made in Germany. The King of Prussia had come to the aid of Achard in 1801 by loaning him 50,000 thalers to establish a factory in 1802 in Silesia. For several years he had devoted his whole time to sugar investigations. In 1809 Achard lost his factory by fire. The King released him from the loan and gave him 20,000 thalers additional and he erected another factory and paid his debts. These schools and factories which were combined with the raising of beets, attracted students from various nations of the world.

They spread over Russia and soon that nation extended material financial aid and encouragement to the industry. The Czar, among other things, issued a decree exempting the lands of those who would establish beet-sugar factories from taxation, and it is known that he gave General Blankenagel about $39,000 toward the erection of a factory.

A REVERSE TO BEET SUGAR ABROAD.

With the fall of Napoleon in 1814 came the Cossacks, who quartered themselves in the French factories, seized their motive power, and disaster overtook beet-sugar production. Only two or three factories were saved from the invasion and general wreck of property. But France was soon required under Louis XVIII to raise vast revenue, and a heavy duty was after a time imposed on colonial sugar, which operated to reencourage beet-sugar production, but it was not until between 1820 and 1825 that beet sugar obtained another, and as it proved, a permanent lease of life.

In the meantime the production of beet sugar there had progressed so rapidly, and the Government was so sorely in need of revenue, that in 1837 the Government imposed an internal-revenue tax on it. France was then producing 110,000,000 pounds. In fact, as early as 1825-'26 the production in France had risen to 8,815,000 pounds, from 100 factories, while in 1836 it was 107,905,000 pounds, from 436 factories. The product and increase is here given in tons:

1828	2,200
1833	12,000
1838	49,226
1843 (colonial imported 83,000 tons)	29,560
1848 (colonial imported 62,000 tons)	64,316
1853	75,275
1858	50,000
1863	108,000
1873	409,916
1874	423,222
1875	463,122
1879	375,000
1881-2	393,270
1887-8	392,821
1888-9	466,767
1889-90	788,000
1890-1	694,000
1891-2	650,350
1892-3	588,838

CONTEST BETWEEN CANE AND BEET SUGAR.

The internal-revenue tax alluded to, as placed on beets in France in 1837, was imposed at the instance of the colonial (French) cane interests. This tax was a license of $10 to manufacture, and from $2 to $3 per 220 pounds of sugar. The effect was to paralyze the beet-sugar industry in 17 of the 37 departments, and the production fell from 49,000 to 29,000 tons. This provoked a bad feeling, and some proposed to suppress the beet-sugar industry, but the farmers in France were too strong and Louis Napoleon, from his dungeon in the castle of Ham, indited his famous pamphlet on the subject in favor of the beet-sugar farmers who rallied around the future Emperor, who rebuked the ministry for presenting the issue involved to the people in false and misleading light.

He said: "The good or faulty solution of a problem often depends on the way in which it is laid down. The part of the Government should have been to pronounce against the destruction of a national industry and to have then submitted to the councils general of agriculture the best means of reconciling rival interests." He then proposed a reduction of the duty on French colonial sugar and a defensive prohibitory tariff on all foreign sugar. He objected to the sacrifice of an industry of 4,000,000 French sugar farmers to that of 32,000 French colonial planters. He was especially impressed with that feature of the industry which brought the beet-sugar farmer and the manufacturer of sugar therefrom so close together as to exclude the middleman, and he dwelt upon sugar as a means of educating the farmer.

It must not be forgotten that on the accession of Louis XVIII on the downfall of Napoleon, he and his ministry seem to think it popular to overturn whatever Napoleon had erected, and foreign sugars were admitted on the same footing as those from French sugar colonies. The result was that English sugar imported threatened to annihilate the remaining vestige of the domestic industry. When Louis Phillippe came to power a discriminating tax was imposed, and in 1840–1843 a general tariff on foreign sugar was enacted, by which a discrimination was made in favor of foreign sugars made abroad in factories owned by Frenchmen and there was a discrimination also made in favor of French colonial cane as against English cane sugars, and in favor of sugars coming into France by French ships. These duties varied from about 8 cents to about 12 cents per pound. This policy was continued until 1839. To the tariff of 1840, taking effect in 1841, was attached a section revising the internal-revenue tax on domestic beet sugar. This tax ranged from $5 to $7.20 per 220 pounds, and was continued until August 1, 1844, when a law to run four years was enacted providing for an increase of $1 each year. This seems to have been the work of the French colonial cane sugar interest; and it placed both on an even plane as to the amount of internal-revenue tax imposed on French sugar. From this time on the internal-tax laws on sugar underwent frequent variations. In 1846 it was determined that all juice yielding $\frac{12}{100}$ pounds per gallon and over should pay tax, and in 1853 it was levied on the density and quantity of juice. This law has varied ever since as has the tariff law, the object being to attain as much advantage over other countries, and especially over Germany and Austria, as possible, but above all by higher tariff to retain the home market for the French farmers. Under the French tax and tariff methods domestic sugar secured a covert advantage on export sugar.

BEET SUGAR IN GERMANY.

In Germany, where the King of Prussia had followed or kept pace so sharply with Napoleon's effort, the continental war seems to have had as disastrous effect as in France. The industry did not revive in Prussia nor in Austria until 1835, but thereafter it progressed there gradually but quite rapidly because of the encouragement given it. The development appears to have been as follows:

	Tons.		Tons.
1836, from 122 factories	1,414	1882–'83	848,922
1845	15,222	1887–'88	1,023,733
1850	53,600	1888–'89	990,600
1860	130,000	1889–'90	1,264,600
1865, from 295 factories	348,000	1890–'91	1,331,906
1871–'72	186,422	1891–'92	1,198,150
1872–'73	262,551	1892–'93	1,225,330

At first, in 1844, there was imposed on beets a "material" tax of 7 cents on 220 pounds of beets, which was increased from time to time. It was made 14 cents from 1850 to 1853; increased to 28 cents from 1853 to 1858; made $35\frac{7}{10}$ cents from 1858 to 1869 and slightly increased from that time, on two occasions, until 1888, and in that year it was reduced to 19 cents per 220 pounds. In 1891 this "material" tax was abolished and a direct bounty given. Prior to this act of 1890–'91 the concealed bounty was about 30 cents per 220 pounds of sugar. Then there was and remains the "consumption" tax, levied on all sugar entering into consumption. This tax was and is added to the price of sugar, which, with the high tariff (giving the home market to the domestic producer), makes sugar dear in Germany. This "consumption" tax has varied also, until in 1890 it was made not quite 2 cents per pound. The tariff on sugar is about $3\frac{8}{10}$ cents per pound. Then on export sugar there is from 1892 and until 1895 a direct bounty given of from 30 to 50 cents per 220 pounds, and from 1895 to 1897 this is slightly decreased and then abolished.

The "consumption" tax is not paid on export sugar to enable German manufacturers to compete in foreign markets.

For years prior to 1890 the covert drawback or bounty was obtained in this way: The "material" tax was paid on the beets, the bounty allowed being based on an assumption or legal fiction in the law that it took about 1,375 pounds of beets to make a centner, or 110 pounds, of sugar, whereas science had brought a yield of 110 pounds of sugar from 1,155 pounds of beets. The drawback on the sugar from excess (220 pounds of beets) constituted the covert bounty, and in the aggregate amounted to a very large sum for a number of years. It should be stated that foreign sugar coming in must pay the "consumption" tax equally with domestic. But the German beet-sugar farmers, most of whom are largely interested in both farm and factory, are not satisfied with the law of 1890. They affirm that the French premium amounts to $1.50 on every 220 pounds of sugar, the Austrian to 75 cents, and the German to only 52.

THE RUSSIAN POLICY.

Russia commenced to export sugar in 1885, to any extent. For years the producers, who were also the manufacturers for several years, "realized enormous profits from the protection afforded them by the Government in placing a high tariff on all foreign sugar." This policy produced a large surplus of sugar, the price of which dropped to 5 cents per pound, and the producers applied to the Government for aid to maintain their industries. The Government gave them 50 cents on every 36 pounds bounty until the production reached 72,000,000 pounds, and thereafter and until 1886 a bounty of 40 cents on every 36 pounds exported. The law has varied since. The result of this policy was that sugar producers realized as high as 50 per cent profits while the value of beet lands increased from 150 to 200 per cent. Russia levies an internal or "consumption" tax of 32½ cents on every 36 pounds of sugar made. The sugar factories of Russia are insured for over $30,000,000, which shows, to some extent, the value of the beet-sugar industry in that country.

BOUNTIES, ETC., IN AUSTRIA-HUNGARY.

At first, in 1860, when sugar became an article of export from Austria, the export bounty was 25 cents per hundred pounds, which was increased in 1864 to 31 cents per hundred pounds, and in 1886 it ran from 40 to 45 and 55 cents per hundred pounds. The "material" tax on beets has varied. She also has the "consumption" tax. For instance, in 1884 the "material" tax was about $11,000,000 and she paid in export bounty about the same sum.

The increase in production, more recently, has been as follows:

	Tons.
1888-'89	523,240
1889-'90	753,980
1890-'91	778,470
1891-'92	780,560
1892-'93	802,570

Production of beet sugar in 1871-'72 and 1891-'92 in Germany.

[From Zeitschrift des Vereins für die Rübenzucker-Industrie des Deutschen Reichs, 1893, p. 6.]

	1871-'72.	1891-'92.
Factories in operation	311	403
Engines employed	1,921	4,879
Horse power developed	18,162	73,211
Acres under cultivation	264,813	807,489
Yield of beets per acre* ..... pounds	18,700	25,850
Tons beets worked†	24,760,100	104,368,013
Pounds beets worked in twelve hours' shift*	76,780	319,000
Pounds sugar produced*	410,172,180	2,517,608,720
Pounds molasses produced*	140,561,740	538,931,580
Pounds beets required to produce 100 pounds sugar*	1,207	829
Pounds sugar imported*	97,490,140	15,882,020
Pounds sugar exported*	25,246,320	1,467,941,800
Consumption per head per year ..... pounds	12·1	18·9

* Converted from kilograms into pounds at the rate of 2·2 pounds per kilogram.
† One ton equals 2,000 pounds.

Production of beet sugar in 1880-'81 and 1890-'91 in France.

[G. Dureau in Neue Zeitschrift für Rübenzucker, 1892.]

	1880-'81.	1890-'91.
Factories in operation	486	377
Number of employés	65,293	49,698
Working days	6,340,447	5,553,818
Acres planted to beets	456,720	531,810
Yield of beets per acre	30,976	26,875
Average pounds beets per factory*	27,060,000	37,983,484
Total pounds beets worked*	14,363,091,600	14,299,794,663
Pulp produced on weight of beets ..... per cent	38	38
Engines in use	.....	3,081
Horse power developed	.....	47,894
Pounds coal consumed per 1,000 pounds beets*	145	175
Pounds sugar produced*	738,267,008	1,353,532,670
Pounds molasses produced*	469,574,100	594,971,133
Yield of sugar expressed as refined ..... per cent	5·10	9·46
Yield of molasses on weight of beets ..... do	3·22	4·15

* Kilograms converted into pounds at the rate of 2·2 pounds for 1 kilogram.

INDEX.

CAUSES.

Page.
- Introductory 3
- Condition of agriculture 4
- Prices and depression (with statistical tables) 10
- Cost of production 23
- Causes of depression 24
- Improved methods of farming 31
- Overproduction 31
- American wheat in English markets 32
- English wheat in English markets 33
- Dealing in options and futures 33
- Power of the grain dealers 36
- Merchant milling 37
- Live stock 38
- Packing houses 43
- Kansas City 48
- Omaha 50
- Causes which tend to depress prices of all farm products 51
- Foreign competition 52
- Land 53
- General causes which tend to depress prices of all articles 59
- Industrial combination 61
- Merchant mills and packing houses 62
- Concentration of the money power 64

REMEDIES.

- Introductory 83
  - Individual remedies 85
  - Remedies by association 85
  - New crops as well as better methods 87
- Woolgrowing 88
- Sugar-beet farming 88
- Production of sugar in the United States 97
- Sorghum-sugar making 99
- Remedies by State legislarion 100
- Equalize taxation 101
- Remedies by national legislation 101
  - *a.* Crop and market reports 102
  - *b.* Futures and options 102
  - *c.* Consolidation of the carrying business 102
  - *d.* Class legislation 103
- Excessive capitalization of industrial enterprises 104
- Improvement of the monetary system 105

APPENDICES.

1. Tables relating to disposition of public lands 110
2. Letters from farmers not received in time for insertion in report submitting testimony, letters, and statistics 111
   - Letter from W. F. Kelso, Hallock, Minn 111
     - P. Voorheis, jr., Pontiac, Mich 112
     - E. D. Childs, Crooksten, Minn 112
     - John L. Gibbs, Geneva, Minn 113
     - J. B. Durand, Prairie City, Mo 115
     - Frank Hoover 115
     - Benj. K. Peffer, Carlisle, Pa 116
     - a grange, Hesperia, Mich 117

Page.
3. The range cattle business 126
4. On the feeding of cattle 126
5. Sorghum and the manufacture of sugar 132
    a. Sorghum in Kansas 132
    b. Medicine Lodge Sorghum-Sugar Factory 132
6. Matter relating to sugar beets and the manufacture of beet sugar 133
    a. American and German beets 133
    b. Increase in consumption of sugar in the United States 134
    c. Cost of producing beets for sugar 135
    d. Cost of beet sugar 135
    e. Grand Island Factory 137
    f. Watsonville Sugar Factory 138
    g. Anaheim Cooperative Beet Sugar Company 139
    h. Alameda Sugar Factory 141
    i. Chino Sugar Factory 145
    j. Work of the Chino Factory, 1893 148
    k. Report from beet farmers in Chino Valley 149
    l. History of beet sugar abroad 151
    m. A reverse to beet sugar abroad 152
    n. Contest between cane and beet sugar 152
    o. Beet sugar in Germany 153
    p The Russian policy 153
    q. Bounties, etc., in Austria-Hungary 154

UNITED STATES SENATE,
Washington, D. C., January 9, 1895.

We regard the paper prepared by Senator Peffer as very instructive, containing much valuable information needful to be published, and to be considered in relation to the subjects submitted to the committee.

We agree that he shall make that paper a report on the subjects embraced in it; but in this we do not commit ourselves to all the arguments presented in it, or to the conclusions reached by the author.

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